



STIC Search Report

EIC 1700

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TO: Laura Weiner

Location: 8 E 10

May 6, 2003

Case Serial Number: 09866529

From: Barba Koroma

Location: EIC 1700

CP3/4-3D62

Phone: 305-3542

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Search Notes

This search is based on the limitations of claims 25-37. If you have any questions about the search strategy used please do not hesitate to call.

=> FIL CAPLUS WPIX JAPIO COMPENDEX JICST-EPLUS
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=> d que 177

L1	(529342)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	16.195/RID
L2	(345896)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	16.165/RID
L3	(	199966)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	16.515/RID
L4	(	485171)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	16.299/RID
L5	(	153516)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	16.239/RID
L6	(	66958)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	46.169/RID
L7	(	6)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	3757.131/RID
L8	(	441381)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	46.383/RID
L9	(	1610260)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	46.156/RID
L10	(	3556411)	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	(L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR L9)
L13		8915	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	FLPO/PCT
L14		275881	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	PACR/PCT
L15		104704	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	PSTY/PCT
L17		157918	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	PVIN/PCT
L18		16515	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	PC/PCT
L20		11297	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	AR/PCT
L23		1219	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	PANH/PCT
L25		96347	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	L10 AND SALT
L26		81296	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L25
L27		66578	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L13
L28		360901	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L14
L29		260338	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L15
L30		415052	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L17
L31		24529	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L18
L32		32841	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L20
L33		1740	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L23
L34		429	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	PHOSPHONIUM SALT
L35		24332	SEA	FILE=REGISTRY	ABB=ON	PLU=ON	AMMONIUM SALT
L36		404	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L34
L37		112586	SEA	FILE=CAPLUS	ABB=ON	PLU=ON	L35

L52 34763 SEA FILE=REGISTRY ABB=ON PLU=ON (AMMONIUM OR PHOSPHONIUM)
AND SALT

L55 652 SEA FILE=CAPLUS ABB=ON PLU=ON (L26 OR L36 OR L37 OR L52) AND
(L27 OR L28 OR L29 OR L30 OR L31 OR L32 OR L33) OR FLUOROPOLYMER OR ACYL? (3A) POLYMER) AND ELECTROLYTE

L56 41 SEA FILE=CAPLUS ABB=ON PLU=ON L55 AND (THERM? OR FLAM?)

L57 21 SEA FILE=CAPLUS ABB=ON PLU=ON L55 AND (THERMAL OR ?FLAM?)

L58 44 SEA FILE=CAPLUS ABB=ON PLU=ON L56 OR L57

L59 49061 SEA FILE=WPIX ABB=ON PLU=ON (IMIDAZOLIUM OR PYRAZOLIUM OR
TRIAZOLIUM OR THIAZOLIUM OR OXAZOLIUM OR PYRIDAZINIUM OR
PYRIMIDINIUM OR PYRAZINIUM OR AMMONIUM OR PHOSPHONIUM OR
PYRIDINIUM) AND SALT

L60 268 SEA FILE=WPIX ABB=ON PLU=ON (ACRYLATE OR FLUORO) (3A) POLYMER
AND L59

L61 13 SEA FILE=WPIX ABB=ON PLU=ON ELECTROLYTE# AND L60

L62 4499 SEA FILE=WPIX ABB=ON PLU=ON (NON OR REDUCED) (3A) FLAMMABL? OR
THERM? (3A) STAB? AND ELECTROLYTE# AND L59

L63 16 SEA FILE=WPIX ABB=ON PLU=ON (ACRYLATE OR FLUORO) (3A) POLYMER
AND L62

L64 22 SEA FILE=WPIX ABB=ON PLU=ON (NON OR REDUCED) (3A) FLAMMAB? AND
ELECTROLYTE#

L65 49 SEA FILE=WPIX ABB=ON PLU=ON L61 OR L63 OR L64

L66 17 SEA FILE=WPIX ABB=ON PLU=ON (METAL OR CATION) AND L65

L69 1 SEA FILE=JICST-EPLUS ABB=ON PLU=ON (METAL OR CATION) AND L65

L70 61 DUP REM L69 L66 L58 (1 DUPLICATE REMOVED)

L71 1 SEA FILE=JICST-EPLUS L70

L72 1 SEA FILE=JICST-EPLUS ABB=ON PLU=ON L71 AND ELECTROLYTE

L73 17 SEA FILE=WPIX L70

L74 14 SEA FILE=WPIX ABB=ON PLU=ON L73 AND ELECTROLYTE

L75 43 SEA FILE=CAPLUS L70

L76 43 SEA FILE=CAPLUS ABB=ON PLU=ON L75 AND ELECTROLYTE

L77 58 SEA L70 AND ELECTROLYTE

=> d all 177

L77 ANSWER 1 OF 58 JICST-Eplus COPYRIGHT 2003 JST

AN 950535317 JICST-Eplus

TI Application of polyaniline-polyanion composite film to positive electrode
for secondary battery with ambient temperature molten salt
electrolyte.

AU TAKEISHI KAZUYUKI; KOURA NOBUYUKI; IDEMOTO YASUSHI

CS Sci. Univ. of Tokyo

SO Nippon Kagakkai Koen Yokoshu, (1995) vol. 69th, no. 1, pp. 222. Journal
Code: S0493A
ISSN: 0285-7626

CY Japan

LA Japanese

STA New

AB Conducting polymer film incorporated with a polyanion is a promising
candidate for a positive electrode material of the Li secondary battery.

Because, the redox reaction is accompanied by a doping-undoping reaction of a **cation**. On the other hand, an LiCl saturated AlCl₃-1-ethyl-3-methylimidazolium chloride (EMIC) ambient temperature molten salt is also expected a **non flammable electrolyte** for the Li secondary battery. An electrochemical behavior of a polyaniline-poly (stylenesulfonate) composite film was studied, and the possibility as the positive electrode active material for the Li secondary battery was investigated in AlCl₃-EMIC-LiCl and AlCl₃-1-butylpyridinium chloride-LiCl melts. (author abst.)

=> d all 1-58 177

L77 ANSWER 1 OF 58 JICST-EPlus COPYRIGHT 2003 JST

AN 950535317 JICST-EPlus

TI Application of polyaniline-polyanion composite film to positive electrode for secondary battery with ambient temperature molten salt **electrolyte**.

AU TAKEISHI KAZUYUKI; KOURA NOBUYUKI; IDEMOTO YASUSHI

CS Sci. Univ. of Tokyo

SO Nippon Kagakkai Koen Yokoshu, (1995) vol. 69th, no. 1, pp. 222. Journal Code: S0493A

ISSN: 0285-7626

CY Japan

LA Japanese

STA New

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L77 ANSWER 2 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 2002-677030 [73] WPIX

DNN N2002-535180 DNC C2002-191152

TI **Electrolyte** for lithium secondary battery, contains alkali **metal** salt of ion dissociation property, and imidazolium salt having hexafluorophosphate anion.

DC E11 L03 X16 X21

PA (NITE) NIPPON TELEGRAPH & TELEPHONE CORP

CYC 1

PI JP 2002151145 A 20020524 (200273)* 6p H01M010-40

ADT JP 2002151145 A JP 2000-344678 20001113

PRAI JP 2000-344678 20001113

IC ICM H01M010-40

AB JP2002151145 A UPAB: 20021113

NOVELTY - An **electrolyte** contains an alkali **metal** salt with ion dissociation property, and an imidazolium salt having hexafluorophosphate (PF₆⁻) anion.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a lithium secondary battery containing the **electrolyte** (4), positive electrode (1) which can reversibly carry out electrochemical reaction of lithium ion, and a negative plate (2). The alkali **metal** salt is lithium salt.

USE - For lithium secondary battery (claimed) used as power supply for portable electronic devices and electrical vehicles.

ADVANTAGE - The **electrolyte** has high energy density, high oxidation resistance and reduction resistance. The **electrolyte** is **non-flammable**. The lithium secondary battery has long term stability, safety and favorable charging-discharging cycle characteristics.

DESCRIPTION OF DRAWING(S) - The figure shows the outline structural drawing of lithium secondary battery.

Positive electrode 1

Negative plate 2

Electrolyte 4

Dwg.1/1

FS CPI EPI

FA AB; GI; DCN

MC CPI: E07-D09A; E31-K07; E31-Q02; E33; L03-E01C2

EPI: X16-B01F1; X16-J08; X21-A01F; X21-B01A

L77 ANSWER 3 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 2002-188235 [24] WPIX

DNN N2002-142753 DNC C2002-058056

TI **Electrolyte** used in electrical storage devices e.g. batteries and capacitors requiring ionically conductive median, includes organic **cation salt**.

DC A85 E19 L03 X16

IN KOCH, V R; MCEWEN, A B

PA (KOCH-I) KOCH V R; (MCEW-I) MCEWEN A B; (COVA-N) COVALENT ASSOC INC

CYC 21

PI WO 2001093363 A2 20011206 (200224)* EN 75p H01M010-40

RW: AT BE CH ~~CY DE DK~~ ES FI FR GB GR IE IT LU MC NL PT SE TR

W: JP

US 2002110739 A1 20020815 (200256) H01M010-40

ADT WO 2001093363 A2 WO 2001-US17174 20010525; US 2002110739 A1 Provisional US 2000-207613P 20000526, US 2001-866529 20010525

PRAI US 2000-207613P 20000526; US 2001-866529 20010525

IC ICM H01M010-40

AB WO 200193363 A UPAB: 20020416

NOVELTY - An **electrolyte** consists of an organic **cation salt** at a concentration of at least 0.75 M.

DETAILED DESCRIPTION - An **electrolyte** includes an organic **cation salt** at a concentration of at least 0.75 M, an organic solvent, and a **metal salt** including an alkali or alkaline earth **metal cation**. The **cation** in the organic **cation salt** is imidazolium of

formula (I), **pyrazolium** (II), **1,2,4-triazolium** (III), **thiazolium** (IV), **oxazolium** (V), **1,2,3-triazolium** (VI), **pyridazinium** (VII), **pyrimidinium** (VIII), **pyrazinium** (IX), **ammonium** (X), **phosphonium** (XI), or **pyridinium** (XII).

R1-R6 = H, F, or separate alkyl groups of 1-15 carbon atoms, or two of the separate alkyl groups are joined together to constitute a unitary alkylene radical of 2-6 carbon atoms forming a ring structure converging on N, or separate phenyl groups, in which the alkyl groups, the unitary alkylene radical or the phenyl groups are optionally substituted.

INDEPENDENT CLAIMS are also included for:

(A) a method of producing a **gel polymer electrolyte** involving combining an organic solvent, a **polymer(s)** including an **acrylate polymer** and/or a **fluoropolymer**, a **metal salt** including an alkali or alkaline earth **metal cation**, and an organic **cation salt** as above, and processing the mixture;

(B) an electrochemical cell including an anode, a cathode, and the invented **electrolyte**;

(C) a battery including the electrochemical cell; and.

(D) a method of forming a lithium ion battery, involving assembling a battery skeleton including a carbon anode electrode, a cathode electrode, a separator, and a packaging for the battery; forming a solid **electrolyte** interphase on the carbon anode using a first **electrolyte**; combining a lithium **metal salt** and an organic solvent and mixing with the combination an organic **cation salt** as above to form an organic **cation salt electrolyte**; replacing the first **electrolyte** with the organic **cation salt electrolyte**; and sealing the battery.

USE - The invention is useful in electrical storage devices, e.g. batteries and capacitors, electrochromic displays, and other applications requiring ionically conductive median.

ADVANTAGE - The invention has high **thermal stability** and **reduced flammability**.

Dwg.0/25

FS CPI EPI

FA AB; GI; DCN

MC CPI: A12-E01; A12-M01; A12-M02; E05-G; E06-H; E07-H; E10-A22; L03-B03A; L03-E01C2; L03-E03; L03-G05C

EPI: X16-B01F

L77 ANSWER 4 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 2001-334554 [35] WPIX

CR 2001-475433 [50]; 2001-513672 [52]

DNN N2001-241400 DNC C2001-103280

TI Solid **electrolyte** for electrochemical cell, comprises three-dimensional inorganic **metal oxide** network encapsulating liquid **electrolyte** containing salt which is stable in presence of water and organic solvent.

DC E12 L03 X16

IN EHRLICH, G M

PA (YARN) YARDNEY TECH PROD INC

CYC 1

PI US 6203949 B1 20010320 (200135)* 7p H01M006-18

ADT US 6203949 B1 Provisional US 1997-56740P 19970822, US 1998-137492 19980821

PRAI US 1997-56740P 19970822; US 1998-137492 19980821

IC ICM H01M006-18

AB US 6203949 B UPAB: 20011005

NOVELTY - Solid **electrolyte** comprises a polymer composed of three-dimensional inorganic **metal oxide** network encapsulating a liquid **electrolyte** solution. The liquid **electrolyte** solution contains a salt and is stable in presence of water and organic solvent.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for electrochemical cell which comprises an anode, cathode and solid **electrolyte** disposed between them.

USE - For electrochemical cell (claimed). The solid **electrolyte** is also used as battery separator.

ADVANTAGE - Manufacture of electrochemical cell using solid polymer **electrolyte** is simplified. The solid polymer **electrolyte** begins as a liquid and then solidifies in situ, so cells may be manufactured as in liquid **electrolyte** system. Since the **electrolyte** material is solid, leakage is prevented. The **electrolyte** material has low volatility, therefore it is safe to use. The solid **electrolyte** presents much **reduced flammability** when compared to other polymer, liquid or gel **electrolytes**.

Dwg.0/2

FS CPI EPI

FA AB; DCN

MC CPI: E05-A; E05-C02; E10-A08; E31-P03; E34-C02; E35; L03-E01A; L03-E01C
EPI: X16-A02

L77 ANSWER 5 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 2001-168335 [17] WPIX

DNN N2001-121419 DNC C2001-050197

TI Chemical-mechanical polishing slurry used in semiconductor device planarization has particles uniformly dispersed in an aqueous medium with specified surface area, an aggregate size distribution and an aggregate diameter.

DC A25 A26 A85 L03 M14 P61 U11

IN BURKE, P A; LACK, C D; LUO, Q; SACHAN, V; THOMAS, T M; YE, Q C; YE, Q

PA (RODE-N) RODEL HOLDINGS INC

CYC 31

PI WO 2001002134 A1 20010111 (200117)* EN 33p B24B001-00

RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

W: CN JP KR SG

EP 1177068 A1 20020206 (200218) EN B24B001-00

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT

RO SE SI

TW 452523 A 20010901 (200240) B24B001-00

US 6447373 B1 20020910 (200263) B24B001-00

KR 2002035826 A 20020515 (200273) H01L021-304

JP 2003503862 W 20030128 (200309) 34p H01L021-304
ADT WO 2001002134 A1 WO 2000-US17046 20000621; EP 1177068 A1 EP 2000-943003
20000621, WO 2000-US17046 20000621; TW 452523 A TW 2000-112525 20000626;
US 6447373 B1 Provisional US 1999-142326P 19990703, US 2000-598377
20000621; KR 2002035826 A KR 2002-700019 20020102; JP 2003503862 W WO
2000-US17046 20000621, JP 2001-507608 20000621
FDT EP 1177068 A1 Based on WO 200102134; JP 2003503862 W Based on WO 200102134
PRAI US 1999-142326P 19990703; US 2000-598377 20000621
IC ICM B24B001-00; H01L021-304
ICS B24B037-00; B24D003-34; C09K003-14; C09K013-00; H01L021-00;
H01L021-44

AB WO 200102134 A UPAB: 20010328
NOVELTY - Chemical-mechanical polishing slurry has particles uniformly
dispersed in an aqueous medium with a surface area of 40-430 m²/g,
aggregate size distribution less than 1 μ m, mean aggregate diameter less
than 0.4 μ m, and contains at least one ionic species which prevents a
force sufficient to repel and overcome the van der Waals forces between
particles. The particles form stage 1 agglomerates greater than 1 μ m.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a
method of chemical-mechanical polishing of a **metal** layer of a
substrate by chemical mechanical polishing a **metal** layer with
the inventive slurry comprising particles dispersible in an aqueous
medium. The medium has a static etch rate with respect to the
metal layer of less than 75 Angstrom /min.

USE - The slurry is used in chemical-mechanical polishing of a
metal layer of a substrate, preferably in semiconductor device
planarization, memory disk polishing, and optics polishing. It can be used
in polishing dielectrics, including low k (dielectric constant)
dielectrics, e.g. porous silica, or organic low k dielectrics, e.g.
fluoro polymers or copolymers.

ADVANTAGE - The method provides an effective polishing to
metal layers at desired polishing rates while minimizing surface
imperfections and defects. The slurries have a low static etch rate and
are metastable due to reversible formation of types of agglomerates. The
agglomerates will not cause unacceptable polishing defects and will
de-agglomerate with simple agitation.

Dwg.0/6

FS CPI EPI GMPI

FA AB

MC CPI: A12-W12C; L04-C26; M14-A

EPI: U11-C06A1A

L77 ANSWER 6 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 1999-468726 [39] WPIX

DNC C1999-137445

TI Cosmetic composition for treatment of hair etc. contains an
amidoethercarboxylic acid surfactant and a combination of a
non-crosslinked anionic polymer and a cationic polymer.

DC A18 A25 A26 A96 D21 E19

IN CAUWET, M D; GARNIER, N; CAUWET-MARTIN, D

PA (OREA) L'OREAL SA

CYC 83

PI WO 9933444 A1 19990708 (199939)* FR 51p A61K007-50
 RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL
 OA PT SD SE SZ UG ZW
 W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD
 GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
 MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA
 UG US UZ VN YU ZW
 FR 2773069 A1 19990702 (199939) A61K007-06
 AU 9915669 A 19990719 (199951)
 EP 966265 A1 19991229 (200005) FR
 R: DE ES FR GB IT
 JP 2000510491 W 20000815 (200044) 46p A61K007-06
 US 6423305 B1 20020723 (200254) A61K007-06
 ADT WO 9933444 A1 WO 1998-FR2687 19981210; FR 2773069 A1 FR 1997-16629
 19971229; AU 9915669 A AU 1999-15669 19981210; EP 966265 A1 EP 1998-959950
 19981210, WO 1998-FR2687 19981210; JP 2000510491 W WO 1998-FR2687
 19981210, JP 1999-534566 19981210; US 6423305 B1 WO 1998-FR2687 19981210,
 US 1999-380088 19991026
 FDT AU 9915669 A Based on WO 9933444; EP 966265 A1 Based on WO 9933444; JP
 2000510491 W Based on WO 9933444; US 6423305 B1 Based on WO 9933444
 PRAI FR 1997-16629 19971229
 IC ICM A61K007-06; A61K007-50
 ICS A61K007-00; A61K007-075; A61K007-08
 ICA C11D001-10; C11D003-37
 AB WO 9933444 A UPAB: 19990928
 NOVELTY - Use of an amidoethercarboxylic acid surfactant and a combination
 of a non-crosslinked anionic polymer and a cationic polymer in cosmetic
 compositions for treatment of the hair.
 DETAILED DESCRIPTION - Cosmetic or dermatological composition for
 treatment of keratinous materials comprising, in an appropriate medium, at
 least one surface active amidoethercarboxylic acid or its salts
 and at least one combination of a non-crosslinked anionic polymer and a
 cationic polymer.
 USE - The compositions are useful for treating keratinous materials,
 especially the hair, and may be in the form of shampoos, capillary
 conditioning products for application before or after shampooing, hair
 dyeing, bleaching, permanent waving or defrizzing, and which are
 subsequently rinsed out.
 ADVANTAGE - The combination of amidoethercarboxylic acid, anionic
 polymer and cationic polymer provides unexpected improvements in styling,
 volume, maintenance of coiffure and washing of the hair.
 Dwg.0/0
 FS CPI
 FA AB; DCN
 MC CPI: A12-V04A; D08-B; E10-C04F
 L77 ANSWER 7 OF 58 WPIX (C) 2003 THOMSON DERWENT
 AN 1998-065744 [07] WPIX
 DNN N1998-062057 DNC C1998-026013
 TI Lithium ion accumulator with non-aqueous electrolyte - has
 pressed carbon fibre anode, complex oxide cathode with lithium and second
 metal, and electrolyte of mixed cyclic carbon and linear

carbonate.

DC L03 X16 X21

IN ABE, H; MURAI, T; OHSAKI, T

PA (NIKK-N) NIKKISO CO LTD

CYC 5

PI FR 2749980 A1 19971219 (199807)* 27p H01M004-30

JP 10003946 A 19980106 (199811) 8p H01M010-40

CA 2184678 A 19971213 (199824) H01M010-26

KR 98006595 A 19980330 (199905) H01M010-24

US 5856043 A 19990105 (199909) H01M010-40

ADT FR 2749980 A1 FR 1996-10711 19960903; JP 10003946 A JP 1996-151417

19960612; CA 2184678 A CA 1996-2184678 19960903; KR 98006595 A KR

1996-38221 19960904; US 5856043 A US 1996-707379 19960904

PRAI JP 1996-151417 19960612

IC ICM H01M004-30; H01M010-24; H01M010-26; H01M010-40

ICS H01M004-24; H01M010-28

AB FR 2749980 A UPAB: 19980223

The accumulator has an anode formed with a body of pressed carbon fibres developed in the vapour phase, graphitised, and having a specific surface area of 5 square metre per gram with an aspect ratio of 2 to 30, and a density between 1.2 and 2.0 gram per cubic centimetre. The cathode is a complex oxide containing lithium.

The **electrolyte** is a mixture of a cyclic carbon and a linear carbonate with a lithium salt dissolved. The complex oxide used for the cathode contains lithium and a **metal** chosen from Groups 3B, 6A, 7A and 8 of the periodic table.

USE - Lithium ion accumulators for electric vehicles or domestic energy storage.

ADVANTAGE - Improved reliability and improved charge capacity, extended life, avoids decomposition of solvent, resistant to bursting and with **reduced flammability**. Good cyclic behaviour.

Dwg.1/1

FS CPI EPI

FA AB; GI

MC CPI: L03-E01B3; L03-E01C

EPI: X16-B01F1; X16-E01C1; X16-J02; X16-J08; X21-A01F; X21-B01A

L77 ANSWER 8 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 1993-205287 [25] WPIX

DNN N1993-157878 DNC C1993-091004

TI Low **flammability** solvents for **non-aq.** electrochemical cells - comprise di ester(s) or ether ester(s) e.g. ethylene glycol di acetate or 2-ethoxy-ethyl acetate, opt. with co-solvents.

DC E19 L03 X16

IN WEBBER, A

PA (EVEY) EVEREADY BATTERY CO INC

CYC 1

PI US 5219683 A 19930615 (199325)* H01M006-14

ADT US 5219683 A Cont of US 1990-562014 19900802, US 1992-846746 19920306

PRAI US 1990-562014 19900802; US 1992-846746 19920306

IC ICM H01M006-14

AB US 5219683 A UPAB: 19931116

Non-aq. electrochemical cells with alkali(ne earth) **metal** anodes use as solvents for the the **electrolyte** diesters or ether-esters of formula Y-O-X-O-C(O)-R (I), opt. in combination with non-aq. co-solvents. R = 1-10C alkyl; X = 1-8C acyclic gp.; and Y = 1-10C alkyl or carbonyl gp. (R1C(O) where R1 = 1-10C alkyl.

USE/ADVANTAGE - The cells are pref. those with Li anodes and alkali(ne earth) **metal** salts as soluble **electrolytes**, pref. LiCF3 SO3 or LiBF4. (I) have lower flammability and higher b.pts. than conventionally used solvents and so extend the upper operating temp. limits and safety characteristics of Li cells.

Dwg.0/0

FS CPI EPI

FA AB; DCN

MC CPI: E10-G02G; E10-G02H; L03-E02

EPI: X16-A02; X16-B01F; X16-J02; X16-J08

L77 ANSWER 9 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 1993-129745 [16] WPIX

DNN N1993-098918 DNC C1993-057692

TI Solid **electrolyte** sec. battery having increased capacity - ~~includes~~ high mol. solid **electrolytes** contg. **acrylate polymers**, low mol. polyethylene glycol deriv. and gp-IA or **ammonium salts** in crosslinked polymers.

DC A85 L03 X16

PA (NIOC) NIPPON OIL KK; (RAYN) TOSHIBA BATTERY CO LTD

CYC 1

PI JP 05067476 A 19930319 (199316)* 8p H01M010-40

ADT JP 05067476 A JP 1991-254158 19910906

PRAI JP 1991-254158 19910906

IC ICM H01M010-40

AB JP 05067476 A UPAB: 19931115

Battery comprises anode and a cathode and a nonwoven fabric or porous film with high mol. solid **electrolytes** contg. polymers of CH2=C(R1)-CO-O-(CH2CH2O)m-R2 formula (I), low mol. polyethylene glycols methyletherified at both ends and alkali **metal salts** or **ammonium salts** retained in crosslinked polymers made of polyethylene di(meth)**acrylate polymers** interposed between the anode and cathode. In (I), R1 is H or 1-5C alkyl, R2 is 1-5C alkyl and m is 2-3.

USE/ADVANTAGE - The battery has increased and the useful charging-discharging cycle life may be increased.

3/3

Dwg.3/3

FS CPI EPI

FA AB

MC CPI: A04-F06E; A10-E07B; A10-E08A; A12-E06; L03-E03

EPI: X16-B01F; X16-J01A

L77 ANSWER 10 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 1990-377841 [51] WPIX

DNN N1990-287962 DNC C1990-164588

TI Conductive gasket for sealing facing flanges - with flame- and

abrasion-resistant conductive coating.

DC A82 A88 G02 L03 Q43 Q48 Q65 V04

IN HOGE, W; KAPLO, J J; LUND, C

PA (SCLM) SCHLEGEL CORP

CYC 19

PI EP 403112 A 19901219 (199051)* 10p

R: BE CH DE ES FR GB IT LI LU NL SE

AU 9056028 A 19901220 (199107)

NO 9002684 A 19901217 (199108)

JP 03028578 A 19910206 (199112)

FI 9002606 A 19901217 (199115)

DK 9001474 A 19901217 (199117)

US 5045635 A 19910903 (199138) 9p

CA 1319967 C 19930706 (199333) H05K009-00

EP 403112 B1 19960110 (199607) EN 15p H05K009-00

R: BE CH DE ES FR GB IT LI LU NL SE

DE 69024707 E 19960222 (199613) H05K009-00

KR 9612119 B1 19960912 (199925) G12B017-02

ADT EP 403112 A EP 1990-305902 19900531; JP 03028578 A JP 1990-157377

19900615; US 5045635 A US 1989-367210 19890616; CA 1319967 C CA

1989-613242 19890926; EP 403112 B1 EP 1990-305902 19900531; DE 69024707 E

DE 1990-624707 19900531, EP 1990-305902 19900531; KR 9612119 B1 KR

1990-8893 19900616

FDT DE 69024707 E Based on EP 403112

PRAI US 1989-367210 19890616

REP A3...9117; DE 2134815; DE 2827676; EP 275171; NoSR.Pub

IC E04B001-66; E04B001-68; E06B005-18; E06B007-22; F16J015-12; G12B017-02;
H01B001-00; H01B005-00; H01S004-00; H02G003-06; H05K009-00

ICM G12B017-02; H05K009-00

ICS E04B001-66; E04B001-68; E06B005-18; E06B007-22; F16J015-12;

H01B001-00; H01B005-00; H01S004-00; H02G003-06

AB EP 403112 A UPAB: 19930928

An appts. is claimed comprising: 1) first and second conductive bodies having conductive surface arranged to be interspersed between the bodies for shielding against the passage of electromagnetic effects and environmental effects; and 2) a conductive coating on the seal, including a dispersion of conductive particles in a flexible elastomeric binder. A method of sealing electrically conductive bodies against electromagnetic and environmental effects is also claimed, comprising the apparatus described above. A gasket for blocking the passage of electromagnetic and environmental effects between conductive bodies comprises: i) a continuous, moulded resilient foam core in a flexible, electrically conductive and abrasion-resistant sheath externally surrounding the core and bonded to it, with the core filling the interior of the sheath; ii) means of attaching the gasket to at least one of the bodies so that the core presses the sheath against at least one of the bodies; and iii) a conductive coating on the sheath as described above. The gasket resists abrasion and flame.

USE/ADVANTAGE - The sealing apparatus or gasket is used, e.g. for cabinet closures, windows or doors, to exclude air and moisture, and also to exclude electromagnetic and radio interference. The invention claims to provide a seal which is simpler and cheaper than conventional seals, which

is more effective, and which excludes environmental **electrolytes** from dissimilar **metals** at the junction between plates.

1/5

FS CPI EPI GMPI

FA AB

MC CPI: A08-M09A; A12-E01; A12-E05; A12-H08; G02-A05B; L03-G
EPI: V04-U

L77 ANSWER 11 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 1990-371449 [50] WPIX

DNN N1990-283216 DNC C1990-161576

TI Solid polymer **electrolyte** for e.g. lithium or plastics cell - comprises reticular polyethylene glycol di **acrylate** **polymer** contg. PVC.

DC A14 A60 A85 E19 E37 L03 U11 X12 X16

PA (NIOC) NIPPON OIL KK

CYC 1

PI JP 02267809 A 19901101 (199050)*

JP 2559844 B2 19961204 (199702) 3p H01B001-06

ADT JP 02267809 A JP 1989-88127 19890410; JP 2559844 B2 JP 1989-88127 19890410

FDT JP 2559844 B2 Previous Publ. JP 02267809

PRAI JP 1989-88127 19890410

IC C08G065-32; C08L071-03; H01B001-12; H01M006-18; H01M010-36

ICM H01B001-06

ICS C08G065-32; C08L071-03; H01B001-12; H01M006-18; H01M010-36

AB JP 02267809 A UPAB: 19930928

A solid polymer **electrolyte** comprises (A) reticular polyethylene glycol diacrylate polymer contg. (B) PVC (C) a low mol. wt. polyethylene glycol contg. methyl-etherified terminals and (D) an alkali **metal** salt or an ammonium salt.

Specifically, (B) is hard PVC having an average mol. wt. of 10000-500000 and blended opt. a stabiliser (e.g. lead white, 3PbO.PbSO4, PbHPO3, dibasic PB phthalate, Cd-Ba-, Zn- or Ca-stearate, -laurate, -linolate, -naphthenate or -ethylhexanoate, dibutyl Sn dilaurate, dibutyl Sn maleate or dibutyl Sn mercaptide) in an amt. of 0.1-5 PHR.

USE/ADVANTAGE - The polymer **electrolyte** has high ionic conductivity film strength and high adhesion with electrode. It is used for solid Li cell or solid plastic cell or an **electrolyte** for electrochromic display.

90161576

FS CPI EPI

FA AB; DCN

MC CPI: A04-E02E; A07-A04E; A10-E07B; A10-E08A; A12-E06; A12-E11A; E05-A;
E10-A22G; E31-C; E31-K07; E31-Q02; L03-E01C
EPI: U11-A03; X12-D01C; X16-A02A; X16-J

L77 ANSWER 12 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 1989-350984 [48] WPIX

TI Molten **electrolyte** battery - obtd. by stacking batteries and heating agents and housing with **non-flammable** heater in **metal** case with adiabatic wall NoAbstract Dwg 1/3.

DC L03 X16

PA (YUAS) YUASA BATTERY CO LTD

CYC 1

PI JP 01260764 A 19891018 (198948)* 11p

ADT JP 01260764 A JP 1988-87534 19880408

PRAI JP 1988-87534 19880408

IC H01M006-36

FS CPI EPI

FA NOAB; GI

MC CPI: L03-E02

EPI: X16-A03A

L77 ANSWER 13 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 1985-066362 [11] WPIX

DNN N1985-049632 DNC C1985-029112

TI Desensitising treating soln. for offset printing - contg. anionic cpd., water soluble cationic polymer and an electrolyte cpd..

DC A97 E19 E37 G05 P75

PA (FUJF) FUJI PHOTO FILM CO LTD; (TOMO) TOMOEGAWA PAPER MFG CO LTD

CYC 1

PI JP 60023098 A 19850205 (198511)* 5p

JP 02056232 B 19901129 (199101)

ADT JP 60023098 A JP 1983-130349 19830719; JP 02056232 B JP 1983-130349 19830719

PRAI JP 1983-130349 19830719

IC B41N003-08

AB JP 60023098 A UPAB: 19930925

Desensitising treating soln. contains effective components, (a) an anionic cpd., (b) a water-soluble cationic polymer and (c) an electrolytic cpd. selected from alkali metal salts, alkali earth metal salts, ammonium salts and amine salts of formic acid, oxalic acid, sulphuric acid, nitric acid, sulphamic acid or carbonic acid.

Cpd. (a) is other than inositol hexaphosphoric acid ester, ammonium salt or amine salts, has molecular wt. ca. 500 and is possible to form a chelate with a zinc ion. Cpd. (c) has water solubility 10 wt.% or more at a normal temp..

Cpd. (a) is e.g., the phosphate or phosphoric acid salt of 2-hydroxypropyl(meth)acrylate (co)polymer, poly(meth)acrylic acid, carboxymethyl cellulose, etc.. Cpd. (b) is, e.g., aniline resin, hydrochloride, polyvinylpyrrolidone, hydrochloride, poly(N-vinyl-2-methylimidazolium methylsulphate, etc.. Cpd. (c) is, e.g., NaNO₃, K₂SO₄, NH₄SO₃NH₂, HCOONa, etc.. Content of (a), (b) and (c) is 10-200, pref. 40-75, 0.2-20, pref. 1-10 and 20-150, pref. 40-100 pts.wt. respectively in 1000 pts.wt. of the treating soln..

ADVANTAGE - Treating soln. is stable on storing for long periods of time, has an improved film-forming rate but does not cause staining even on high-speed etching treatment.

FS CPI GMPI

FA AB

MC CPI: A12-W07F; E10-C02D; E10-C04J; E31-H03; E33-C; E33-E; G05-F

L77 ANSWER 14 OF 58 WPIX (C) 2003 THOMSON DERWENT

AN 1984-170861 [27] WPIX
 DNC C1984-072208
 TI Hydrophobic neutralised poly electrolyte complex floccs -
 comprising organic poly cation exchanged lithium or sodium water
 swelling mica.
 DC A26 F01 G02 L02 P42 X12
 IN WU, S H
 PA (CORG) CORNING GLASS WORKS
 CYC 7
 PI US 4455382 A 19840619 (198427)* 8p
 EP 115398 A 19840808 (198432) EN
 R: DE FR GB NL
 JP 59155482 A 19840904 (198441)
 CA 1201256 A 19860304 (198615)
 ADT US 4455382 A US 1983-461672 19830127; EP 115398 A EP 1984-300275 19840117;
 JP 59155482 A JP 1984-13236 19840127
 PRAI US 1983-461672 19830127
 REP 2.Jnl.Ref; A3...8551; EP 16659; JP 50160182; JP 51103900; No-SR.Pub
 IC B05D005-12; C03C003-22; C03C010-10; C04B014-20; C04B028-26; C04B031-40;
 C04B041-32; C04B043-10; C09C001-02; C09D003-00; C09K003-00; D21H005-18
 AB US 4455382 A UPAB: 19930925

Water swelling mica is fluorhectorite, hydroxyl hectorite, B
 fluorphlogopite, hydroxyl B phlogopite and solid solns. of these and opt.
 structurally compatible talc, fluortalc, polyolithionite,
 fluorpolyolithionite, phlogopite, fluorphlogopite.

(A large portion of) the crystals exhibit a morphology of flakes,
 strips and interwoven ribbons in (sub)parallel zones or sheaths; where
 ribbons and strips are 0.5-10 micron long, 500-5000 A wide and less than
 100 A thick; and flakes are irregularly shaped, 0.5-10 micron dia., cross
 section less than 100 A.

The organic polycation is a water soluble condensate of basic
 polyamide and epichlorohydrin which has assumed a polyamide-polyamine-
 epichlorohydrin resin form. The complex is pref. formed into a paper,
 board, film, fibre, or coating, esp. having a silane coating to increase
 water repellency.

The paper, board, etc. exhibits high strength, good toughness, is
non-flammable and water repellant and has high
 electrical resistivity and dielectric constant. The electrical properties
 are insensitive to relative humidity changes.

0/0

FS CPI EPI GMPI
 FA AB
 MC CPI: A10-E19; A12-M02; A12-W06A; F05-A06; G02-A05; L01-A08; L02-B05
 EPI: X12-E01

L77 ANSWER 15 OF 58 WPIX (C) 2003 THOMSON DERWENT
 AN 1978-41214A [23] WPIX
 TI Film-forming, flexible, shock-resistant solid electrolyte -
 comprising mixt. of ammonium or alkali metal
 salt of hetero poly acid with (fluoro) olefin (co)
 polymer.
 DC A14 A17 A85 L03 X16

PA (HITA) HITACHI LTD

CYC 1

PI JP 53046645 A 19780426 (197823)*

PRAI JP 1976-121273 19761012

IC C08J005-22; H01M008-10

AB JP 53046645 A UPAB: 19930901

A solid **electrolyte** comprises a mixt. of **ammonium** or alkali **metal salt** of a heteropolyacid of formula $H8-nM+nM'12O40 \cdot xH2O$, (where M is **metal** e.g. P, Si, B, Al, Ga or Ge, having n+ valency; M' is Mo or W; O is oxygen, and x is <30, and (b) (co)**polymer** of (fluoro)olefin monomer(s).

The solid **electrolyte** has good flexibility and resistance to mechanical shock and can be formed into a film. Useful in batteries or as an ion exchange film. In an example, 90 pts.wt. of finely powdered **ammonium** phosphotungstate (of 3 μ grain size) and 10 pts.wt. ethylene-tetrafluoroethylene copolymer powder were mixed; hot-pressed at 380 degrees C under 650 kg/cm² for 10 minutes and cooled to form a solid **electrolyte** film.

FS CPI EPI

FA AB

MC CPI: A04-E10; A12-M02; L03-E01C

L77 ANSWER 16 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2002:840076 CAPLUS

DN 138:107286

TI Polymer-in-ionic-liquid **electrolytes**

AU Tiypiboonthaiya, Churat; MacFarlane, Douglas Robert; Sun, Jiazeng; Forsyth, Maria

CS School of Chemistry, Monash University, Clayton, 3800, Australia

SO Macromolecular Chemistry and Physics (2002), 203(13), 1906-1911

CODEN: MCHPES; ISSN: 1022-1352

PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

LA English

CC 36-7 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 76

AB In order to achieve high cond. in a polymer **electrolyte**, polymer-in-ionic-liq. **electrolytes** have been explored. It is found in this study that poly[vinylpyrrolidone-co-(vinyl acetate)] (P(VP-c-VA)) in 1-ethyl-3-methylimidazolium bis(trifluoromethanesulfonyl)amide (EtMeIm+Tf2N-) and poly(N,N-di-Me acrylamide) (PDMAA) in trimethylbutylammonium bis(trifluoromethanesulfonyl)amide (N1114+Tf2N-) produce ion-conducting liqs. and gels. The P(VP-c-VA)/EtMeIm+Tf2N- mixt. has a cond. around 10^{-3} S.cntdot.cm⁻¹ at 22.degree.C, for copolymer concns. up to 30 wt.%. Thermal anal. shows that the Tg of the P(VP-c-VA)/EtMeIm+Tf2N- system is well described by the Fox equation as a function of polymer content. Poly(Me methacrylate) (PMMA)/EtMeIm+Tf2N- gel **electrolytes** were prepd. by in-situ polymn. of the monomer in the ionic liq. In the presence of 0.5-2.0 wt.-% of a crosslinking agent, these PMMA-based **electrolytes** displayed elastomeric properties and high cond. (ca. 10^{-3} S.cntdot.cm⁻¹) at room temp.

ST polymer ionic liq **electrolyte** elec cond; vinylpyrrolidone

copolymer ionic liq electrolyte; vinyl acetate copolymer ionic liq electrolyte; polydimethylacrylamide ionic liq electrolyte; PMMA ionic liq electrolyte .

IT Crystallization temperature
Electric conductivity
Glass transition temperature
Ionic liquids
Melting point

(elec. cond. and thermal properties of polymer-in-bis(trifluoromethanesulfonyl)amide ionic-liq. electrolytes)

IT 9011-14-7, PMMA 25086-89-9, Vinyl acetate-vinylpyrrolidone copolymer 26793-34-0, Poly(N,N-dimethyl acrylamide) 70799-55-2; Methyl methacrylate-tetraethylene glycol diacrylate copolymer 174899-82-2 258273-75-5
RL: PRP (Properties)

(elec. cond. and thermal properties of polymer-in-bis(trifluoromethanesulfonyl)amide ionic-liq. electrolytes)

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
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L77 ANSWER 17 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2002:698183 CAPLUS

DN 137:328246

TI Preparation of planar SOFC-components via tape casting of aqueous systems, lamination and cofiring

AU Bitterlich, Bernd; Lutz, Christiane; Roosen, Andreas

CS Department of Materials Science, Glass and Ceramics, University of Erlangen-Nuremberg, Erlangen, D-91054, Germany

SO Ceramic Materials and Components for Engines, [International Symposium], 7th, Goslar, Germany, June 19-21, 2000 (2001), Meeting Date 2000, 51-56.
Editor(s): Heinrich, Juergen G.; Aldinger, Fritz. Publisher: Wiley-VCH

Verlag GmbH, Weinheim, Germany.
CODEN: 69DBOZ; ISBN: 3-527-30416-9

DT Conference

LA English

CC 57-2 (Ceramics)

Section cross-reference(s): 76

AB The Solid Oxide Fuel Cell (SOFC) gains a high economical efficiency but its manufg. costs are too high to compete successfully at the market. Tape casting via the doctor-blade method is used as a low cost process to produce flat components for the planar SOFC. A decrease of the manufg. costs could be achieved if the different green sheets would be laminated and then cofired in a single firing step. A further advantage for low cost manufg. would be the replacement of org. solvents by water in the tape casting process. Org. solvents which are widely used in the industry are **flammable**, explosive, and a hazard to environment and health. Anode and **electrolyte** of the SOFC were prepd. by tape casting of aq. slurries. To achieve a highly porous anode, graphite was used as a filler which burns out after binder burnout. The anode/**electrolyte** composite structure is formed by lamination by the **thermo**-compression method. The laminates were cofired. Defect-free connections between the porous anode and the dense **electrolyte** were obtained. The results are discussed in detail.

ST manuf fuel cell anode **electrolyte** tape casting lamination
cofiring

IT Acrylic polymers, processes

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(Mowilith; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT Porous materials

(anode; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT **Thermal** decomposition

(binder burn-out; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT **Thermal** expansion

(coeff.; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT Firing (heat treating)

(cofiring; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT Joining

(**electrolyte**/anode; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT Density

(of **electrolyte**; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT Bending strength

Crack (fracture)

Electrolytes

Fuel cell anodes

Lamination
Permeability
Porosity

(prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT Fuel cells

(solid oxide; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT Molding

(tape-casting; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT 7782-42-5, Graphite, processes

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(Timcal KS 6, filler; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT 1313-99-1, Nickel oxide, processes 64417-98-7, Yttrium zirconium oxide

RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(anode; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT 9002-89-5, Mowiol

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(binder; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT 9003-03-6, Polyacrylic acid, ammonia salt

RL: MOA (Modifier or additive use); USES (Uses)

(dispersing agent; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT 56-81-5, Glycerol; uses

RL: MOA (Modifier or additive use); USES (Uses)

(plasticizer; prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

IT 114168-16-0, Yttrium zirconium oxide (Y0.16Zr0.92O2.08)

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(prepn. of planar SOFC-components via tape casting of aq. systems, lamination and cofiring)

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L77 ANSWER 18 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2002:693473 CAPLUS

DN 137:240872

TI Electric double-layer capacitors having porous insulator-composite electrolyte polymers

IN Aizawa, Wakana; Tsukuda, Takahiro; Takaoka, Kazuchiyo; Hyodo, Kenji

PA Mitsubishi Paper Mills, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 31 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01G009-025

ICS C08G077-60

CC 76-10 (Electric Phenomena)

Section cross-reference(s): 9, 10, 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002260962	A2	20020913	JP 2001-376545	20011211
PRAI	JP 2000-379739	A	20001214		
	JP 2000-379740	A	20001214		
	JP 2000-396408	A	20001227		

AB The title capacitors have polarized electrodes provided across a porous-insulator composite electrolyte polymer (1) which contains a polymer produced by addn. reaction from a hydrosilyl-terminated compd. and an olefinic compd. (CH₂:CH(R₁)R₂)₂Z₁ [R₁ = H, (substd.)alkyl, (substd.)aryl; R₂ = (substd.)alkylene, (substd.)arylene, (substd.)arylalkylene, (substd.)arylenealkylene, dialkyl(poly)silylene, diaryl(poly)silylene, direct bonding; Z₁ = polyoxyalkylene, (poly)carbonate, (poly)ester, alkylene, heteroat. org. group, divalent poly(meth)acrylate-derivs., direct bonding] and (2) which has a plunging

strength .gtoreq.0.1 N and ion cond. .gtoreq. 1×10^{-3} S/cm (25.degree.) and .gtoreq. 1×10^{-4} S/cm (-30.degree.). The porous-insulator may be a porous film or a **thermal**-resistant unwoven fiber. The capacitors provide **electrolyte** leakage-proof, **thermal** resistance, and high elec. properties.

ST hydrosilyl polyolefin **electrolyte** porous insulator composite capacitor leakage proof

IT Electric properties

(capacitance; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT Electrolytic capacitors

(double-layer; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT Culture media

Gluconacetobacter xylinus xylinus

Ionic conductivity

Leakage current

Polymer **electrolytes**

Tensile strength

Thermal resistance

(elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT Electric resistance

(internal; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT Electric conductivity

(ionic; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT Capacitor electrodes

(polarized; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT Addition reaction

(polymer; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT Electric insulators

(porous, **electrolyte**-composite; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT 457892-27-2

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
((A-1)-(B-2-7)-(D-21) copolymer, electrolytic impregnant; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT 457893-03-7

RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
((A-6)-(B-1-5)-(D-22) copolymer, electrolytic impregnant; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT 9004-34-6P, Cellulose, preparation

RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)

(bacteria; elec. double-layer capacitors having porous insulator-composite **electrolyte** polymers)

IT 9002-88-4, Polyethylene 25085-53-4, Isotactic polypropylene
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (core/sheath unwoven fiber support; elec. double-layer capacitors
 having porous insulator-composite **electrolyte** polymers)

IT 3012-65-5, Ammonium citrate 7733-02-0, Zinc sulfate 7785-87-7,
 Manganese sulfate 10043-52-4, Calcium chloride, properties
 11098-84-3, Ammonium molybdate
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (**electrolyte** mixt.; elec. double-layer capacitors having
 porous insulator-composite **electrolyte** polymers)

IT 429-06-1
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (**electrolyte**; elec. double-layer capacitors having porous
 insulator-composite **electrolyte** polymers)

IT 457892-26-1 457892-29-4
 RL: MOA (Modifier or additive use); PRP (Properties); USES (Uses)
 (electrolytic impregnant; elec. double-layer capacitors having porous
 insulator-composite **electrolyte** polymers)

IT 7440-06-4, Platinum, uses
 RL: CAT (Catalyst use); USES (Uses)
 (polymn. catalyst; elec. double-layer capacitors having porous
 insulator-composite **electrolyte** polymers)

L77 ANSWER 19 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2002:570428 CAPLUS

DN 137:125867

TI **Thermoplastic**-reinforcing carbon fibers for
thermoplastic moldings with high tensile strength and surface
 electric resistance comprising carbon fibers having the surface adhered to
 ammonium salt **electrolytes** and injection molding pellets
 containing carbon fibers therefrom and carbon fiber-reinforced
thermoplastic moldings therefrom

IN Tsunekawa, Hiroshi; Watanabe, Toshimasa

PA Toho Tenax Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM D06M011-55

ICS B29B009-14; C08J003-12; C08J005-06; C08K009-02; C08L059-00;
 C08L069-00; C08L101-00; B29K069-00; B29K071-00; B29K105-12;
 B29K307-04; D06M101-40

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 40

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002212876	A2	20020731	JP 2001-576	20010105
PRAI	JP 2001-576		20010105		

AB The reinforcing carbon fibers (A) have the surface contg. 5-100 ppm (on
 wt.) **electrolyte** compds., or the reinforcing carbon fibers
 comprise A carbon fibers having the **electrolytes** comprising

(NH₄)₂SO₄, or the reinforcing carbon fibers comprise A carbon fibers having av. length 0.1-10 mm. The injection molding pellets (B) comprise pellets having A carbon fibers dispersed in the pellets, or the injection molding pellets comprise A pellets having **thermoplastics** consisting of polyoxymethylenes or polycarbonates, or the injection molding pellets comprise A pellets having A carbon fiber content 1-40%. The carbon fiber-reinforced moldings comprise molding having A carbon fibers dispersed in the inner portion of the moldings. Thus, 96:4 acrylonitrile-Me acrylate copolymer precursor filaments were heated in air at 250.degree. to form fire-resistant fibers, carbonized at 1400.degree. under N (g) to form carbon fibers with sp.gr. 1.8, passed through an aq. soln. contg. 1% (NH₄)₂SO₄, dried, wound, and cut to give chopped carbon fibers with (NH₄)₂SO₄ content 10 ppm and length 6 mm. A prepreg comprising a polyacetal (polyoxymethylene) and the chopped fibers was pelletized to give pellets contg. 20% carbon fibers. The pellets were injection molded to give test pieces exhibiting tensile strength 138 MPa and surface resistivity 39 .OMEGA..

- ST carbon reinforcing fiber **electrolyte** treatment polyoxymethylene tensile strength enhancement; polyacetal tensile strength enhancement carbon reinforcing fiber **electrolyte** treatment; polycarbonate tensile strength enhancement carbon reinforcing fiber **electrolyte** treatment; molding **thermoplastic** tensile strength enhancement carbon fiber **electrolyte** treatment; ammonium sulfate carbon fiber treatment polyoxymethylene reinforcement; ammonium nitrate carbon fiber treatment polyoxymethylene reinforcement; elec resistance enhancement carbon fiber reinforced **thermoplastic**
- IT Acrylic fibers, properties
 Synthetic polymeric fibers, properties
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (acrylonitrile-Me acrylate, precursor; **thermoplastic** -reinforcing carbon fibers for **thermoplastic** moldings with high tensile strength and surface elec. resistance comprising carbon fibers having the surface adhered to ammonium salt **electrolytes**)
- IT Reinforced plastics
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (carbon fiber-reinforced **thermoplastics**; **thermoplastic**-reinforcing carbon fibers for **thermoplastic** moldings with high tensile strength and surface elec. resistance comprising carbon fibers having the surface adhered to ammonium salt **electrolytes**)
- IT Electric resistance
 (enhancement of; **thermoplastic**-reinforcing carbon fibers for **thermoplastic** moldings with high tensile strength and surface elec. resistance comprising carbon fibers having the surface adhered to ammonium salt **electrolytes**)
- IT Molding of plastics and rubbers
 (injection; **thermoplastic**-reinforcing carbon fibers for

thermoplastic moldings with high tensile strength and surface elec. resistance comprising carbon fibers having the surface adhered to ammonium salt electrolytes)

IT Electrolytes

(thermoplastic-reinforcing carbon fibers for thermoplastic moldings with high tensile strength and surface elec. resistance comprising carbon fibers having the surface adhered to ammonium salt electrolytes)

IT Carbon fibers, properties

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(thermoplastic-reinforcing carbon fibers for thermoplastic moldings with high tensile strength and surface elec. resistance comprising carbon fibers having the surface adhered to ammonium salt electrolytes)

IT Polycarbonates, properties

Polyoxymethylenes, properties

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(thermoplastic-reinforcing carbon fibers for thermoplastic moldings with high tensile strength and surface elec. resistance comprising carbon fibers having the surface adhered to ammonium salt electrolytes)

IT 24968-79-4, Acrylonitrile-methyl acrylate copolymer

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(fiber, precursor; thermoplastic-reinforcing carbon fibers for thermoplastic moldings with high tensile strength and surface elec. resistance comprising carbon fibers having the surface adhered to ammonium salt electrolytes)

IT 6484-52-2, Ammonium nitrate, properties 7783-20-2,

Ammonium sulfate, properties

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(thermoplastic-reinforcing carbon fibers for thermoplastic moldings with high tensile strength and surface elec. resistance comprising carbon fibers having the surface adhered to ammonium salt electrolytes)

L77 ANSWER 20 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2002:449487 CAPLUS

DN 137:24336

TI Polymer-based hydrostatic delivery system for controlled drug release

IN MacGregor, Alexander

PA Can.

SO PCT Int. Appl., 48 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K009-22
 CC 63-6 (Pharmaceuticals)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002045695	A2	20020613	WO 2001-CA1721	20011204
	WO 2002045695	A3	20021227		
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,				
	CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM,				
	HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS,				
	LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL,				
	PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG,				
	UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,				
	CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,				
	BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002021412	A5	20020618	AU 2002-21412	20011204
	US 2002155067	A1	20021024	US 2002-6740	20020402
PRAI	US 2000-251751P	P	20001205		
	WO 2001-CA1721	W	20011204		
AB	The present invention provides a hydrostatic delivery system comprising a hydrostatic couple and an agent of interest. The hydrostatic couple comprises, at least one hydrodynamic fluid-imbibing polymer, and at least one hydrostatic pressure modulating agent. This delivery system has the ability to control the release of one or more agent of interest within a fluid environment following zero-order kinetics. For example, extended-release tablets were prepd. contg. ranitidine-HCl 60.0 mg, Carbopol 971P 203.66 mg and Crospovidone XL-10 1.54 mg (hydrostatic couple), hydroxypropyl Me cellulose phthalate 4.0 mg, and Mg stearate 4.0 mg. The dissoln. profile for ranitidine-HCl from a formulation comprising a hydrostatic couple displays a linear, zero-order release of an agent for over 16 h.				
ST	crosslinked polymer hydrostatic controlled drug delivery				
IT	Muscle contraction				
	Urinary tract				
	Vagina				
	(agents for; prepn. of polymer-based hydrostatic delivery system for controlled drug release)				
IT	Diagnosis				
	(agents; prepn. of polymer-based hydrostatic delivery system for controlled drug release)				
IT	Ion channel blockers				
	(calcium; prepn. of polymer-based hydrostatic delivery system for controlled drug release)				
IT	Drug delivery systems				
	(capsules, controlled-release; prepn. of polymer-based hydrostatic delivery system for controlled drug release)				
IT	Drug delivery systems				
	(controlled-release; prepn. of polymer-based hydrostatic delivery system for controlled drug release)				
IT	Polymers, biological studies				
	RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES				

(Uses)

- (crosslinked; prepn. of polymer-based hydrostatic delivery system for controlled drug release)
- IT Drug delivery systems
 - (enteric-coated; prepn. of polymer-based hydrostatic delivery system for controlled drug release)
- IT Drug delivery systems
 - (granules; prepn. of polymer-based hydrostatic delivery system for controlled drug release)
- IT Encapsulation
 - (microencapsulation; prepn. of hydrostatic delivery system for controlled drug release)
- IT Anti-inflammatory agents
 - (nonsteroidal; prepn. of polymer-based hydrostatic delivery system for controlled drug release)
- IT Drug delivery systems
 - (ophthalmic; prepn. of polymer-based hydrostatic delivery system for controlled drug release)
- IT Drug delivery systems
 - (particles; prepn. of polymer-based hydrostatic delivery system for controlled drug release)
- IT Adrenoceptor agonists
- Adsorbents
- Amebicides
- Analgesics
- Anesthetics
- Anti-inflammatory agents
- Antiarthritics
- Antibacterial agents
- Anticonvulsants
- Antidepressants
- Antidiabetic agents
- Antihistamines
- Antihypertensives
- Antimalarials
- Antimicrobial agents
- Antiparkinsonian agents
- Antipyretics
- Antiviral agents
- Biocides
- Bronchodilators
- Buffers
- Cardiovascular agents
- Cholinergic agonists
- Coloring materials
- Compression
- Contraceptives
- Crosslinking agents
- Decongestants
- Dissolution
- Diuretics
- Electrolytes, biological

Flavoring materials

Fungicides

Granulation

Hypnotics and Sedatives

Muscle relaxants

Nervous system depressants

Nervous system stimulants

Parasitocides

Particle size

Pelletization

Solubilizers

Sweetening agents

Swelling, physical

Tranquilizers

Trichomonacides

Viscosity

Wetting agents

(prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT Carbonates, biological studies

Hormones, animal, biological studies

Peptides, biological studies

Proteins

Vitamins

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT Drug delivery systems

(suspensions; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT Drug delivery systems

(tablets, controlled-release; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT Drug delivery systems

(vaginal; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT Extrusion, nonbiological

(wet and dry; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT Adrenoceptor agonists

Adrenoceptor antagonists

(.alpha.-; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT Adrenoceptor antagonists

(.beta.-; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT 7631-86-9, Colloidal silica, biological studies

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(colloidal; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT 9003-01-4, Poly(acrylic acid)

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES

(Uses)

(crosslinked; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT 9002-98-6, Polyethylenimine 9003-39-8, Poly(N-vinyl-2-pyrrolidone) 9004-32-4, Carboxymethyl cellulose 9004-34-6D, Cellulose, derivs. 9005-25-8D, Starch, derivs. 9063-38-1, Sodium starch glycolate 30551-89-4, Poly(allylamine)

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(crosslinked; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT 57-50-1D, Sucrose, allyl ethers 115-77-5D, Pentaerythritol, allyl ethers
RL: RCT (Reactant); RACT (Reactant or reagent)

(crosslinking agents; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT 9015-82-1, Angiotensin converting enzyme

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(inhibitors; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT 124-38-9, Carbon dioxide, biological studies 7782-44-7, Oxygen, biological studies 10049-04-4, Chlorine dioxide

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(precursors; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT 58-08-2, Caffeine, biological studies 66357-59-3, Ranitidine Hydrochloride

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT 58-55-9, Theophylline, biological studies 71-52-3, Hydrogen carbonate, biological studies 497-19-8, Sodium carbonate, biological studies 506-87-6, Ammonium carbonate 554-13-2, Lithium carbonate 557-04-0, Magnesium stearate 584-08-7, Potassium carbonate 2893-78-9, Sodium dichloroisocyanurate 7632-04-4, Sodium perborate 7681-52-9, Sodium hypochlorite 7778-54-3, Calcium hypochlorite 9004-54-0, Dextran, biological studies 9005-82-7, Amylose 9012-72-0, Polyglucan 9050-31-1, Hydroxypropyl methyl cellulose phthalate 15630-89-4, Sodium percarbonate 21829-25-4, Nifedipine 28231-58-5, L-Lysine carbonate 33386-08-2, Buspirone hydrochloride 36282-47-0, Tramadol Hydrochloride 39156-42-8, L-Arginine carbonate 42399-41-7, Diltiazem 57916-92-4, Carbopol 934P 63183-41-5, Sodium glycine carbonate 161279-68-1, Carbopol 971P 372111-59-6, Carbopol EX507

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(prepn. of polymer-based hydrostatic delivery system for controlled drug release)

IT 106-89-8, reactions 7785-84-4, Sodium trimetaphosphate 10025-87-3, Phosphoric trichloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(starch derivs. crosslinked by; prepn. of polymer-based hydrostatic delivery system for controlled drug release)

AN 2002:207608 CAPLUS
 DN 136:248730
 TI Infrared absorptive particle-dispersed polymeric gel matrix for
 fabrication of controllable **thermal**-radiation attenuator
 IN Komura, Akimasa; Akashi, Ryojiro; Fujiwara, Shoichiro; Ishii, Rie
 PA Fuji Xerox Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM C08L101-12
 ICS C03C027-12; C08J005-18; C08K003-00; C08K005-00; E06B005-00;
 C09K003-00

CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 73

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002080736	A2	20020319	JP 2000-268466	20000905
PRAI	JP 2000-268466		20000905		
AB	Title controllable IR-attenuating material is prepd. by dispersing IR absorptive particles in a polymeric gel matrix, the vol. change of which, due to moisture absorption, is dependent of the external environment. Thus, indium-tin oxide particles SUFP-HX were dispersed in a polymeric gel matrix prepd. from acrylamide, methylene bisacrylamide, and ammonium persulfate, showing temp.-dependent vol. thus IR transmission changes.				
ST	IR absorptive particle water absorbent gel controllable attenuator; indium tin oxide acrylamide copolymer thermal attenuation temp dependence				
IT	Optical instruments (attenuators, thermal radiation; polymeric gel matrix dispersed with IR absorptive particle for fabrication of)				
IT	Polymer electrolytes (contg. IR absorptive material for elec. field-dependent thermal attenuator)				
IT	Hydrogels (dispersed with IR absorptive particle for controllable thermal attenuator)				
IT	Plastic films (prepd. from polymeric gel matrix dispersed with IR absorptive particle as thermal attenuator)				
IT	50926-11-9, SUFP HX 404349-07-1, Celnax CX-Z 350H-F RL: TEM (Technical or engineered material use); USES (Uses) (as IR absorptive particle dispersed in polymeric gel matrix for controllable thermal attenuator)				
IT	1327-33-9, Antimony oxide RL: TEM (Technical or engineered material use); USES (Uses) (as component of IR absorptive particle dispersed in polymeric gel matrix for controllable thermal attenuator)				
IT	94926-92-8P RL: DEV (Device component use); IMF (Industrial manufacture); POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material				

use); PREP (Preparation); USES (Uses)
 (as gel matrix dispersed with IR absorptive particle for controllable
thermal attenuator)

IT 1338-41-6, Sorgen 50

RL: MOA (Modifier or additive use); USES (Uses)
 (as surfactant for prepn. of TR absorptive particle-dispersed gel
 matrix for controllable **thermal** attenuator)

IT 1310-73-2, Sodium hydroxide, uses

RL: NUU (Other use, unclassified); USES (Uses)
 (in IR absorptive material-contg. gel-based elec. field-dependent
thermal attenuator)

L77 ANSWER 22 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2001:726730 CAPLUS

DN 135:281797

TI Solid electrolytic capacitor using carbon paste and manufacture of the
 capacitor

IN Ohata, Hideki; Monden, Ryuji; Sakai, Atsushi

PA Showa Denko K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01G009-028

ICS C08G061-12; C08K003-04; C08K003-08; C08L009-00; C08L065-00;
 H01G009-04; H01G009-00

CC 76-10 (Electric Phenomena)

Section cross-reference(s): 38, 39, 56

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001274040	A2	20011005	JP 2000-89092	20000328
	US 2002001168	A1	20020103	US 2001-818530	20010328
	US 6556427	B2	20030429		
PRAI	JP 2000-89092	A	20000328		
	US 2000-244879P	P	20001102		

OS MARPAT 135:281797

AB The capacitor involves a solid **electrolyte** on a microporous
 dielec. film formed on a valve metal substrate surface and an elec.
 conductive C paste layer and an elec. conductive metal powder paste layer
 successively formed on the **electrolyte**, wherein the binder of
 the C paste is penetrated into the **electrolyte** layer and
 micropores on the valve metal substrate. The capacitor is manufd. by the
 process involving (a) forming the solid **electrolyte** layer on the
 valve metal substrate surface, (b) forming the C paste layer contg. an
 elastic binder with softening point .ltoreq.330.degree. and a solvent, and
 (c) forming the elec. conductive metal powder paste layer. The capacitor
 shows enhanced adhesion between the elec. conductive metal layer,
 preferably Ag layer, and both the valve metal and the **electrolyte**
 because of the penetration of the elastic binder from the C paste layer.

ST solid electrolytic capacitor carbon paste binder; elastic binder carbon
 paste electrolytic capacitor; penetration binder carbon paste electrolytic

- capacitor; valve metal elec conductor adhesion capacitor; rubber binder carbon paste electrolytic capacitor
- IT Acrylic rubber
 - Butadiene rubber, processes
 - Butyl rubber, processes
 - Ethylene-propylene rubber
 - Fluoro rubber
 - Isoprene rubber, processes
 - Nitrile rubber, processes
 - Silicone rubber, processes
 - Styrene-butadiene rubber, processes
 - Thermoplastic rubber**
- RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 - (binder; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT Electrically conductive pastes
 - (carbon; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT Conducting polymers
 - (**electrolytes**; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT Fluoro rubber
 - RL: DEV (Device component use); USES (Uses)
 - (hexafluoropropene-tetrafluoroethylene-vinylidene fluoride, Viton SVX; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT Binders
 - Solid electrolytes**
 - (solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT Electrolytic capacitors
 - (solid; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT Metals, uses
 - RL: DEV (Device component use); USES (Uses)
 - (valve; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT Aluminum alloy, base
 - Niobium alloy, base
 - Tantalum alloy, base
 - Titanium alloy, base
 - Zirconium alloy, base
 - RL: DEV (Device component use); USES (Uses)
 - (solid electrolytic capacitor using carbon paste with elastic binder

- penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT 9003-17-2
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (butadiene rubber, binder; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT 9010-85-9
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (butyl rubber, binder; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT 7440-22-4, Silver, uses
 RL: DEV (Device component use); USES (Uses)
 (elec. conductive paste; in solid electrolytic capacitor using carbon paste with elastic binder)
- IT 9010-79-1
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (ethylene-propylene rubber, binder; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT 7727-54-0, Ammonium persulfate 10028-22-5, Iron(III) sulfate
 RL: MOA (Modifier or additive use); USES (Uses)
 (in **electrolyte**; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT 9003-31-0
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (isoprene rubber, binder; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT 9003-18-3
 RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (nitrile rubber, binder; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT 25190-89-0, Hexafluoropropylene-tetrafluoroethylene-vinylidene fluoride copolymer
 RL: DEV (Device component use); USES (Uses)
 (rubber; solid electrolytic capacitor using carbon paste with elastic binder penetrated into **electrolyte** and into dielec. surface of valve metal)
- IT 7429-90-5, Aluminium, uses 7440-03-1, Niobium, uses 7440-25-7, Tantalum, uses 7440-32-6, Titanium, uses 7440-67-7, Zirconium, uses 7782-42-5, Graphite, uses
 RL: DEV (Device component use); USES (Uses)
 (solid electrolytic capacitor using carbon paste with elastic binder

penetrated into electrolyte and into dielec. surface of valve metal)

IT 25067-54-3P, Polyfuran 25233-30-1P, Polyaniline 30604-81-0P, Polypyrrole 58948-53-1DP, polymer derivs 126213-51-2P, 3,4-Ethylenedioxythiophene homopolymer
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(solid electrolytic capacitor using carbon paste with elastic binder penetrated into electrolyte and into dielec. surface of valve metal)

IT 9003-55-8

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(styrene-butadiene rubber, binder; solid electrolytic capacitor using carbon paste with elastic binder penetrated into electrolyte and into dielec. surface of valve metal)

L77 ANSWER 23 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2000:774123 CAPLUS

DN 133:352634

TI Electrode materials having increased surface conductivity

IN Ravet, Nathalie; Besner, Simon; Simoneau, Martin; Vallee, Alain; Armand, Michel; Magnan, Jean-francois

PA Hydro-Quebec, Can.

SO Eur. Pat. Appl., 22 pp.

CODEN: EPXXDW

DT Patent

LA French

IC ICM H01M004-58

ICS H01M004-48; H01M004-62

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 57, 72, 76

FAN. CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1049182	A2	20001102	EP 2000-401207	20000502
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	CA 2307119	AA	20001030	CA 2000-2307119	20000428
	JP 2001015111	A2	20010119	JP 2000-132779	20000501
	US 2002195591	A1	20021226	US 2002-175794	20020621
PRAI	CA 1999-2270771	A	19990430		
	US 2000-560572	B1	20000428		

AB Intercalated electrode materials comprising complex oxides, esp. Li oxides, are prepd., suitable for redox reaction by exchange of alkali metal ions (esp. Li) and electrons with an electrolyte. The complex oxide electrodes can be used in batteries, supercapacitors or electrochromic light moderators. The complex oxides have the general formula $A_aM_mZ_zO_oN_nF_f$, where A is alkali metal (e.g., Li), M is .gtoreq.1 transition metal (e.g., Fe, Mn, V, Ti, Mo, Nb, Zn, W), Z is .gtoreq.1 nonmetal (e.g., P, S, Si, Se, As, Ge, B, Sn), and a,m,z,o,n,f are chosen for elec. neutrality. A conductive carbon coating is formed or deposited

- on the surface of the electrode material, e.g., by pyrolysis of an org. material, hydrocarbons or polymers, for increased surface cond.
- ST electrode material carbon coated increased surface cond; battery electrode carbon coated increased surface cond; supercapacitor electrode carbon coated increased surface cond; electrochromic material carbon coated increased surface cond
- IT Metallic fibers
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(aluminum; electrode materials having increased surface cond.)
- IT Windows
Windows
(electrochromic; electrode materials having increased surface cond.)
- IT Battery cathodes
Capacitor electrodes
Electrochromic materials
Electrodes
Primary batteries
Secondary batteries
Thermal decomposition
(electrode materials having increased surface cond.)
- IT Oxides (inorganic), uses
Oxynitrides
Phosphates, uses
Silicates, uses
Sulfates, uses
RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(electrode materials having increased surface cond.)
- IT Carbon black, uses
EPDM rubber
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(electrode materials having increased surface cond.)
- IT Hydrocarbons, reactions
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrode materials having increased surface cond.)
- IT Organic compounds, reactions
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrode materials having increased surface cond.)
- IT Polymers, reactions
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrode materials having increased surface cond.)
- IT Polyolefins
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrode materials having increased surface cond.)
- IT Polysaccharides, reactions
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC

(Process); RACT (Reactant or reagent)
 (electrode materials having increased surface cond.)

IT Polyoxyalkylenes, uses
 RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)
 (electrolytes; electrode materials having increased surface cond.)

IT Primary batteries
 Secondary batteries
 (lithium; electrode materials having increased surface cond.)

IT Fluorides, uses
 RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (oxyfluorides; electrode materials having increased surface cond.)

IT Electrolytic capacitors
 (supercapacitors; electrode materials having increased surface cond.)

IT Electrochromic devices
 Electrochromic devices
 (windows; electrode materials having increased surface cond.)

IT 7440-44-0P, Carbon, uses 15365-14-7P, Iron lithium phosphate (FeLiPO_4)
 30734-08-8P, Lithium manganese silicate $\text{Li}_2\text{MnSiO}_4$ 39302-37-9P, Lithium titanium oxide 180984-63-8P, Lithium magnesium titanium oxide
 252943-50-3P, Lithium vanadium phosphate silicate $\text{Li}_3.5\text{V}_2(\text{PO}_4)_2.5(\text{SiO}_4)0.5$
 304905-30-4P 304905-31-5P, Iron lithium fluoride (FeLiO_2F_3)
 304905-32-6P, Lithium manganese nitride oxide (Li_3MnNO) 304905-33-7P
 304905-34-8P 304905-35-9P, Lithium magnesium titanium oxide
 ($\text{Li}_3.5\text{Mg}_0.5\text{Ti}_4\text{O}_{12}$) 304905-36-0P, Iron lithium phosphorus silicon oxide
 304905-37-1P 304905-38-2P, Iron lithium phosphorus fluoride oxide
 304905-39-3P 304905-40-6P 304905-41-7P 304905-42-8P
 RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (electrode materials having increased surface cond.)

IT 1314-35-8, Tungsten oxide WO_3 , uses 7782-42-5, Graphite, uses
 50926-11-9, Indium tin oxide 65324-39-2, Celgard 2400
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (electrode materials having increased surface cond.)

IT 1333-74-0, Hydrogen, uses 7440-37-1, Argon, uses 7440-59-7, Helium, uses
 7727-37-9, Nitrogen, uses 7782-44-7, Oxygen, uses
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (electrode materials having increased surface cond.)

IT 78-10-4 109-72-8, Butyl lithium, uses 546-68-9 553-91-3, Lithium oxalate 554-13-2, Lithium carbonate 1310-65-2, Lithium hydroxide
 1344-43-0, Manganese oxide MnO , uses 5931-89-5, Cobalt acetate
 5965-38-8, Cobalt oxalate dihydrate 6108-17-4, Lithium acetate dihydrate
 6156-78-1, Manganese acetate tetrahydrate 6556-16-7, Manganese oxalate dihydrate 7722-76-1, Ammonium dihydrogen phosphate 7783-50-8,
 Iron fluoride FeF_3 7803-55-6, Ammonium vanadate
 9003-01-4, Polyacrylic acid 9011-17-0,
 Hexafluoropropylene-vinylidene fluoride copolymer 10028-22-5, Ferric sulfate 10102-24-6, Lithium silicate Li_2SiO_3 10377-52-3, Lithium

phosphate Li_3PO_4 13463-10-0, Ferric phosphate dihydrate 14567-67-0, Vivianite 16674-78-5, Magnesium acetate tetrahydrate 25656-42-2, Lithium polyacrylate 26134-62-3, Lithium nitride 145673-07-0
 RL: NUU (Other use, unclassified); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(electrode materials having increased surface cond.)

IT 304905-43-9 305324-61-2

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(electrode materials having increased surface cond.)

IT 57-50-1, reactions 77-47-4, Hexachlorocyclopentadiene 98-00-0D, Furfuryl alcohol, derivs., polymers 100-42-5D, Styrene, derivs., polymers 107-13-1D, Acrylonitrile, derivs., polymers 108-05-4D, Vinyl acetate, derivs., polymers 108-95-2D, Phenol, derivs., polymers, reactions 115-07-1, 1-Propene, reactions 120-12-7, Anthracene, reactions 128-69-8D, 3,4,9,10-Perylenetetracarboxylic acid dianhydride, polymers with Jeffamine 600 198-55-0D, Perylene, derivs., polymers 630-08-0, Carbon monoxide, reactions 996-70-3, Tetrakis(dimethylamino)ethylene 1321-74-0D, Divinylbenzene, derivs., polymers 6674-22-2, DBU 9002-88-4 9002-89-5 9003-07-0, Polypropylene 9003-17-2D, Polybutadiene, derivs. 9004-34-6D, Cellulose, derivs., reactions 9004-35-7, Cellulose acetate 9005-25-8D, Starch, derivs., reactions 15133-82-1, Tetrakis(triphenylphosphine)nickel 1 25014-41-9, Polyacrylonitrile 51736-72-2,

Polyvinylidene bromide 157889-12-8, Jeffamine ED 600- perylenetetracarboxylic acid dianhydride copolymer

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(electrode materials having increased surface cond.)

IT 75-05-8, Acetonitrile, uses 96-48-0, gamma-Butyrolactone 96-49-1, Ethylene carbonate 110-71-4 616-38-6, Dimethyl carbonate 646-06-0, Dioxolane 2832-49-7, Tetraethylsulfamide 21324-40-3, Lithium hexafluorophosphate LiPF_6 25322-68-3 66950-70-7 90076-65-6, Lithium bis(trifluoromethanesulfonyl)imide

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(electrolytes; electrode materials having increased surface cond.)

IT 7429-90-5, Aluminum, uses

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(foils, grills; electrode materials having increased surface cond.)

IT 7439-93-2, Lithium, uses

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(foils; electrode materials having increased surface cond.)

IT 7440-50-8, Copper, uses

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(grills; electrode materials having increased surface cond.)

IT 7440-02-0, Nickel, uses

RL: DEV (Device component use); TEM (Technical or engineered material

use); USES (Uses)

(substrates; electrode materials having increased surface cond.)

L77 ANSWER 24 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2000:363820 CAPLUS

DN 133:7062

TI Electrode active mass compositions, polymer **electrolyte** matrix compositions, and manufacture of lithium ion polymer batteries using them

IN Cho, Hun Kyu; Noh, Whan Jin

PA Samsung SDI Co., Ltd., S. Korea

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01M004-02

ICS H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000149922	A2	20000530	JP 1999-235660	19990823
	KR 2000031312	A	20000605	KR 1998-47289	19981105
	US 6372386	B1	20020416	US 1999-370214	19990809
PRAI	KR 1998-47289	A	19981105		

AB The electrode compns. comprise active mass, conductive agents, binders, and 5-30 wt.% **thermally** decomp. plasticizers, e.g., alkali metal carbonates, alk. earth carbonates. The polymer **electrolyte** matrix compns. comprise polymers and 10-60 wt.% the **thermally** decomp. plasticizers. The title batteries are manufd. by following steps; casting the active mass compns. on current collectors and then drying for forming electrodes; casting the matrix compns. and then drying for forming polymer **electrolytes**; heating the laminates at 60-150.degree.; pouring **electrolyte** solns. contg. nonaq. solvents and Li salts. The process does not need extrn. of plasticizers and the batteries are obtained at low cost.

ST carbonate plasticizer electrode lithium ion battery manuf; polymer **electrolyte** carbonate plasticizer lithium battery manuf

IT **Fluoropolymers**, uses

RL: DEV (Device component use); USES (Uses)

(lithium complexes, **electrolytes**; manuf. of lithium ion polymer batteries with electrodes and **electrolytes** using **thermally** decomp. plasticizers)

IT Secondary batteries

(lithium; manuf. of lithium ion polymer batteries with electrodes and **electrolytes** using **thermally** decomp. plasticizers)

IT Battery anodes

Battery cathodes

Battery electrodes

Battery **electrolytes**

Heating

Plasticizers

Polymer **electrolytes**

- (manuf. of lithium ion polymer batteries with electrodes and **electrolytes** using **thermally** decomp. plasticizers)
- IT Carbonates, uses
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (plasticizers; manuf. of lithium ion polymer batteries with electrodes and **electrolytes** using **thermally** decomp. plasticizers)
- IT 7782-42-5, Graphite, uses
 RL: DEV (Device component use); USES (Uses)
 (anodes; manuf. of lithium ion polymer batteries with electrodes and **electrolytes** using **thermally** decomp. plasticizers)
- IT 12190-79-3, Cobalt lithium oxide (CoLiO₂)
 RL: DEV (Device component use); USES (Uses)
 (cathodes; manuf. of lithium ion polymer batteries with electrodes and **electrolytes** using **thermally** decomp. plasticizers)
- IT 7439-93-2D, Lithium, polymer complexes, uses 24937-79-9D, Polyvinylidene fluoride, lithium complexes, **electrolytes**
 RL: DEV (Device component use); USES (Uses)
 (manuf. of lithium ion polymer batteries with electrodes and **electrolytes** using **thermally** decomp. plasticizers)
- IT 144-55-8, Sodium hydrogencarbonate, uses 298-14-6 471-34-1, Calcium carbonate, uses 554-13-2, Lithium carbonate 1066-33-7, Ammonium hydrogencarbonate 5006-97-3, Lithium hydrogencarbonate
 RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (plasticizers; manuf. of lithium ion polymer batteries with electrodes and **electrolytes** using **thermally** decomp. plasticizers)
- L77 ANSWER 25 OF 58 CAPLUS COPYRIGHT 2003 ACS
 AN 2000:298106 CAPLUS
 DN 133:59683
 TI Ionic liquid-polymer impregnated Nafion **electrolytes**
 AU Fuller, Joan; Carlin, Richard T.
 CS National Institute of Standards and Technology, Gaithersburg, MD, 20899-2310, USA
 SO Proceedings - Electrochemical Society (2000), 99-41 (Molten Salts XII), 27-31
 CODEN: PESODO; ISSN: 0161-6374
 PB Electrochemical Society
 DT Journal
 LA English
 CC 38-3 (Plastics Fabrication and Uses)
 Section cross-reference(s): 37, 72, 76
- AB Increased interest in the use of proton exchange membrane (PEM) fuel cells at elevated temp. has prompted the exploration of the incorporation of ionic liqs. into Nafion membranes. Nafion has superior performance characteristics at lower temps.; however its performance degrades as the membrane loses water at elevated temps. The incorporation of ionic liqs. may serve several functions including acting as a plasticizer or serving to increase the **thermal** stability of the Nafion composite

material. Preliminary results on the cond. of ionic liq.-Nafion composites at elevated temps. are reported.

ST ionic liq polymer impregnated Nafion **electrolyte**; proton exchange membrane impregnated Nafion; fuel cell proton exchange membrane Nafion **electrolyte**

IT Polyoxyalkylenes, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(fluorine- and sulfo-contg., ionomers; ionic liq.-polymer impregnated Nafion **electrolytes**)

IT Polyoxyalkylenes, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(fluorine-contg., sulfo-contg., ionomers; ionic liq.-polymer impregnated Nafion **electrolytes**)

IT Cation exchange membranes

Fuel cell **electrolytes**

Ionic conductivity

Thermal stability

(ionic liq.-polymer impregnated Nafion **electrolytes**)

IT **Fluoropolymers**, uses

Fluoropolymers, uses

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(polyoxyalkylene-, sulfo-contg., ionomers; ionic liq.-polymer impregnated Nafion **electrolytes**)

IT Ionomers

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(polyoxyalkylenes, fluorine- and sulfo-contg.; ionic liq.-polymer impregnated Nafion **electrolytes**)

IT 143314-16-3, 1-Ethyl-3-methylimidazolium tetrafluoroborate

145022-44-2, 1-Ethyl-3-methylimidazolium triflate

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(ionic liq.; ionic liq.-polymer impregnated Nafion **electrolytes**)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

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(2) Fuller, J; J Electroanal Chem 1998, V459, P29 CAPLUS

(3) Fuller, J; J Electrochem Soc 1997, V144, P3881 CAPLUS

(4) Fuller, J; J Electrochem Soc 1997, V144, PL67 CAPLUS

(5) Kinoshita, K; Electrochemical Oxygen Technology 1992

L77 ANSWER 26 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2000:251175 CAPLUS

DN 133:109766

TI Aqueous solubility of diclofenac diethylamine in the presence of pharmaceutical additives: a comparative study with diclofenac sodium

AU Khalil, Enam; Najjar, S.; Sallam, A.

CS Faculty of Pharmacy, University of Jordan, Amman, Jordan

SO Drug Development and Industrial Pharmacy (2000), 26(4), 375-381
 CODEN: DDIPD8; ISSN: 0363-9045

PB Marcel Dekker, Inc.

DT Journal

LA English

CC 63-5 (Pharmaceuticals)

AB Aq. soly. of diclofenac diethylamine (DDEA), a nonsteroidal anti-inflammatory drug currently formulated as a topical emulgel, was studied in the presence of pharmaceutical additives and compared with diclofenac sodium (DS). **Electrolytes** at low concns. exhibited a salting-in effect on DDEA with peak soly. that was attributed to the assocn. of DDEA into micelles, followed by a salting-out effect at higher concns., by which structure formation by DDEA mols. increased and pptn. occurred. For DS, which is not capable of forming micelles, the salting-out effect was dominant due to the common ion effect. Cosolvents displayed significant enhancement in soly. of both salts except glycerol, which showed a slight increase in soly. of DDEA and a decrease in soly. of DS due to transformation into the less sol. hydrate form. Ethanol and polyethylene glycol (PEG) 400 cosolvent systems at all concns. showed pos. deviations from the log-linear soly. equation. In the case of propylene glycol (PG) cosolvent systems, neg. deviations were obsd. at low vol. fractions of cosolvent, while pos. deviations were obsd. at high vol. fractions of cosolvent for DS and DDEA. The parent drug, being less ionizable and highly non-polar, showed neg. deviations up to 90% PG content. Thus, the pos. deviations for DS and DDEA could be attributed to the more ionizable carboxylic group and its higher ability for hydrogen bonding at higher fractions of cosolvent. Polyvinylpyrrolidone (PVP) and PEG4000 or PEG6000 enhanced the soly. of DS and DDEA, with PVP exerting higher solubilizing efficiency and DS showing better soly. than DDEA. Solubilities of DS in Tween 80 (T80) and Pluronic F-127 (PF127) aq. solns. were almost similar, while the soly. of DDEA in the presence of T80 was higher than the soly. in the presence of PF127. DS appeared to be located more in the polyoxyethylene mantle of the micelles, while DDEA was located more in the core of the micelles.

ST diclofenac soly **electrolyte** polymer solvent surfactant

IT **Electrolytes**
 Micelles
 Salting-out
 Solubilization
 Surfactants
 (aq. soly. of diclofenac diethylamine vs. diclofenac sodium in presence of pharmaceutical additives)

IT Polymers, biological studies
 Polyoxyalkylenes, biological studies
 RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (aq. soly. of diclofenac diethylamine vs. diclofenac sodium in presence of pharmaceutical additives)

IT Solvents
 (cosolvents; aq. soly. of diclofenac diethylamine vs. diclofenac sodium in presence of pharmaceutical additives)

IT Dissolution

(salting-in; aq. soly. of diclofenac diethylamine vs. diclofenac sodium in presence of pharmaceutical additives)

IT 56-81-5, Glycerol, biological studies 57-55-6, Propylene glycol, biological studies 64-17-5, Ethanol, biological studies 994-36-5, Sodium citrate 7647-14-5, Sodium chloride, biological studies 9003-39-8, PVP 9005-65-6, Tween 80 25322-68-3, Polyethylene glycol 106392-12-5, Pluronic F 127

RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(aq. soly. of diclofenac diethylamine vs. diclofenac sodium in presence of pharmaceutical additives)

IT 15307-79-6, Diclofenac sodium 78213-16-8, Diclofenac diethylamine salt

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(aq. soly. of diclofenac diethylamine vs. diclofenac sodium in presence of pharmaceutical additives)

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (4) Hagen, T; J Pharm Sci 1983, V72, P409 CAPLUS
- (5) Higuchi, T; Adv Anal Chem Instrum 1965, V4, P117 CAPLUS
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- (16) Thomas, E; Int J Pharm 1996, V130, P179 CAPLUS
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- (18) Wells, J; Pharmaceutical Preformulation: The Physicochemical Properties of Drug Substances 1988, P28

L77 ANSWER 27 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 2000:180105 CAPLUS

DN 132:239412

TI Non-aqueous and hardly **flammable** electrolytic solution and lithium secondary battery comprising the electrolytic solution

IN Nakano, Tomoharu

PA Sanyo Chemical Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01M010-40

ICS C08L025-02; C08L031-02; C08L033-14

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000082494	A2	20000321	JP 1998-267274	19980903
PRAI	JP 1998-267274		19980903		

AB This non-aq. and hardly **flammable** electrolytic soln. contains
(A) an oligomer or a polymer having sulfonylimide Li salt in side chains
and (B) an oligomer or a polymer having imidazolium salt of sulfonylimide
in side chains. A secondary battery comprises a cathode, an anode, and
the defined non-aq. and hardly **flammable** electrolytic soln. The
battery may be a Li secondary battery and the anode contains Li or Li+ as
active mass. The electrolytic soln. has excellent **inflammable**
property, high withstand voltage, and elec. cond. even at low temp. and
the secondary battery contg. the electrolytic soln. has excellent charging
and discharging cycle life and sustainable capacity.

ST battery **inflammable** electrolytic soln vinyl polymer;
sulfonylimide lithium electrolytic soln **inflammable** battery;
imidazolium sulfonylimide electrolytic soln **inflammable** battery

IT Battery **electrolytes**
(**inflammable** electrolytic soln. contg. defined polymer or
oligomer for lithium secondary battery with high voltage and capacity)

IT Secondary batteries
(lithium; **inflammable** electrolytic soln. contg. defined
polymer or oligomer for lithium secondary battery with high voltage and
capacity)

IT Vinyl compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(polymers, electrolytic soln. contg., having defined side chains;
inflammable electrolytic soln. contg. defined polymer or
oligomer for lithium secondary battery with high voltage and capacity)

IT 7782-42-5, Graphite, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(anode contg.; **inflammable** electrolytic soln. contg. defined
polymer or oligomer for lithium secondary battery with high voltage and
capacity)

IT 12190-79-3, Cobalt lithium oxide (CoLiO₂)
RL: TEM (Technical or engineered material use); USES (Uses)
(cathode active mass contg.; **inflammable** electrolytic soln.
contg. defined polymer or oligomer for lithium secondary battery with
high voltage and capacity)

IT 96-49-1, Ethylene carbonate 90076-65-6, Lithium
bis(trifluoromethylsulfonyl)imide 215815-17-1 261736-92-9
261736-94-1 261736-96-3 261736-97-4 261736-99-6 261737-01-3
261737-03-5 261737-05-7 261737-07-9
261737-09-1 261737-11-5
RL: TEM (Technical or engineered material use); USES (Uses)
(electrolytic soln. contg.; **inflammable** electrolytic soln.
contg. defined polymer or oligomer for lithium secondary battery with
high voltage and capacity)

L77 ANSWER 28 OF 58 CAPLUS COPYRIGHT 2003 ACS

KOROMA EIC1700

AN 2000:113116 CAPLUS
 DN 132:152345
 TI Molten-salt type polyelectrolyte manufacture
 IN Ohno, Hiroyuki; Ito, Kaori
 PA Shikoku Chemicals Corporation, Japan
 SO U.S., 23 pp.
 CODEN: USXXAM
 DT Patent
 LA English
 IC ICM C08G073-18
 ICS C08L033-00; C08K005-00
 NCL 528170000
 CC 35-4 (Chemistry of Synthetic High Polymers)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6025457	A	20000215	US 1997-997047	19971223
PRAI	US 1997-997047		19971223		
AB	A molten salt polymer is obtained by several means for example by reacting an imidazolium deriv., such as a 1,3-dialkylimidazolium halide, 1,2,3-trialkylimidazolium halide, 1-vinyl-3-alkylimidazolium halide, or 1-vinyl-2,3-alkylimidazolium halide, with an acid monomer, a poly(vinylsulfonamide), trifluoromethanesulfonimide, or the like. The electrolytes show high ionic cond. at room temp. and have excellent stability to temp. fluctuations and excellent mech. properties. Methacrylic acid 1,3-diethylimidazolium bromide salt homopolymer had ionic conductivities as high as 1.50 .times. 10-4 S/cm at 30.degree. and 6.56 .times. 10-4 S/cm at 50.degree..				
ST	imidazolium deriv salt vinyl polymer; methacrylic acid diethylimidazolium bromide salt homopolymer; ionic cond thermal stability polymer electrolyte				
IT	Polyoxyalkylenes, properties RL: PRP (Properties) (fluorine- and sulfo-contg., ionomers, imidazolium complex; having high ionic cond. at room temp.)				
IT	Polyoxyalkylenes, properties RL: PRP (Properties) (fluorine-contg., sulfo-contg., ionomers, imidazolium complex; having high ionic cond. at room temp.)				
IT	Solid electrolytes (having high ionic cond. at room temp.)				
IT	Polymer electrolytes (having high ionic cond. at room temp., thermal stability, and low glass transition temp.)				
IT	Ionomers RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation) (having high ionic cond. at room temp., thermal stability, and low glass transition temp.)				
IT	Fluoropolymers , properties RL: PRP (Properties) (imidazolium complex; having high ionic cond. at room temp.)				
IT	Fluoropolymers , properties				

Fluoropolymers, properties

RL: PRP (Properties)

(polyoxyalkylene-, sulfo-contg., ionomers, imidazolium complex; having high ionic cond. at room temp.)

IT Ionomers

RL: PRP (Properties)

(polyoxyalkylenes, fluorine- and sulfo-contg., imidazolium complex; having high ionic cond. at room temp.)

IT 174899-88-8

RL: MOA (Modifier or additive use); USES (Uses)

(Nafion complexes; having high ionic cond. at room temp.)

IT 131566-27-3

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(blend with poly(methacrylic acid); having high ionic cond. at room temp., **thermal** stability, and low glass transition temp.)

IT 25087-26-7, Poly(methacrylic acid)

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)

(blend with poly(vinylethylimidazolium bromide); having high ionic cond. at room temp., **thermal** stability, and low glass transition temp.)

IT 9003-01-4D, Poly(acrylic acid), aminated, hydrolyzed, imidazolium

complex 9006-23-9D, Divinylbenzene-methyl acrylate copolymer,

hydrolyzed, imidazolium complex 9011-14-7D, PMMA, hydrolyzed,

imidazolium complex 136892-71-2D, Dowex 50wx8-400, imidazolium complex

257945-36-1D, 4-Chloromethylstyrene-methyl acrylate copolymer,

aminated, hydrolyzed, imidazolium complex

RL: PRP (Properties)

(having high ionic cond. at room temp.)

IT 169051-76-7DP, trifluoromethanesulfonated polyallylamine complexes

174899-82-2DP, trifluoromethanesulfonated polyallylamine complexes

174899-90-2DP, trifluoromethanesulfonated polyallylamine complexes

204854-12-6P, preparation 204854-13-7P, preparation

204854-20-6P 204854-22-8P 204854-24-0P

204854-26-2P 204854-28-4P 257945-32-7P

257945-34-9P, preparation

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)

(having high ionic cond. at room temp., **thermal** stability, and low glass transition temp.)

IT 30551-89-4D, Poly(allylamine), lithium complexes,

trifluoromethanesulfonate-contg. 257945-35-0D, 1,3-Benzenedisulfonyl

chloride-ethylenediamine copolymer lithium salt, imidazolium complex

RL: PRP (Properties)

(having high ionic cond. at room temp., **thermal** stability, and low glass transition temp.)

IT 65039-08-9, 1-Ethyl-3-methylimidazolium bromide 93465-17-9 98892-76-3

107937-17-7

RL: MOA (Modifier or additive use); USES (Uses)

(polysulfonamide complexes; having high ionic cond. at room temp., **thermal** stability, and low glass transition temp.)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Anon; JP 60133669 1985 CAPLUS

- (2) Anon; JP 60133670 1985 CAPLUS
- (3) Anon; JP 60136180 1985 CAPLUS
- (4) Anon; JP 834770 1996
- (5) Gifford; US 4463071 1984 CAPLUS
- (6) Gifford; US 4463072 1984 CAPLUS
- (7) Golovin; US 5358620 1994 CAPLUS
- (8) Martin; US 3706672 1972 CAPLUS
- (9) Michaels; US 4292227 1981 CAPLUS
- (10) Motani; US 4090931 1978
- (11) Narang; US 5102751 1992 CAPLUS
- (12) Steckler; US 4049608 1977 CAPLUS
- (13) Suga; US 5194490 1993 CAPLUS
- (14) The Society Of Polymer Science; Polymer Preprints, Japan 1997, V46(3)

L77 ANSWER 29 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1999:780715 CAPLUS

DN 132:66586

TI A study on polymerization of PVDF based **fluoropolymers** with high performance for battery (I)

AU Jo, Seong Mu; Lee, Wha Seop; Oh, Hyun Ju; Park, Seong; Ahn, Byoung Sung; Park, Kun You

CS Polymer Hybrid Research Center, CFC Alternatives Research Center, Korea Institute of Science & Technology, Seoul, 136-791, S. Korea

SO Polymer (Korea) (1999), 23(6), 800-808

CODEN: POLLDG; ISSN: 0379-153X

PB Polymer Society of Korea

DT Journal

LA Korean

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38, 72

AB Poly(vinylidene fluoride)s (PVDFs), which were polymd. by di-t-Bu peroxide (DTBP), an initiator, at high temp., showed low melting temp., low crystallinity, and high contents of head-to-head inversion. The main crystal structure was .alpha.-form (Phase II) and it showed good **thermochem.** stability due to their nonpolar end group. PVDF by ammonium peroxodisulfate (APS) showed higher melting temp., higher crystallinity, and lower contents of head-to-head inversion than those by DTBP. The main crystal structures were .beta.-form (Phase I), but the content of .alpha.-form increased at high polymn. temp. It also showed poor **thermochem.** stability because of their polar end group and low contents of head-to-head inversion.

ST polyvinylidene fluoride polymn emulsion; **thermal** stability
melting crystallinity polyvinylidene fluoride; battery **electrolyte**
polyvinylidene fluoride

IT Polymerization

(emulsion; polymn. of polyvinylidene fluoride based
fluoropolymers with high performance for battery)

IT Melting

Thermal decomposition

(polymn. of polyvinylidene fluoride based **fluoropolymers** with
high performance for battery)

IT **Fluoropolymers**, uses

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(polymn. of polyvinylidene fluoride based **fluoropolymers** with high performance for battery)

IT 110-05-4 7727-54-0

RL: NUU (Other use, unclassified); USES (Uses)

(polymn. initiator; polymn. of polyvinylidene fluoride based **fluoropolymers** with high performance for battery)

IT 9011-17-0P, Hexafluoropropene-vinylidene fluoride copolymer
24937-79-9P, Poly(vinylidene fluoride)

RL: DEV (Device component use); PNU (Preparation, unclassified); PREP (Preparation); USES (Uses)

(polymn. of polyvinylidene fluoride based **fluoropolymers** with high performance for battery)

L77 ANSWER 30 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1999:375525 CAPLUS

DN 131:59262

TI Perfluorocarbyl sulfoxide or sulfone salts and their use as ionic conductors

IN Michot, Christophe; Armand, Michel; Choquette, Yves; Gauthier, Michel

PA Acep Inc., Can.; Universite de Montreal; Centre National de la Recherche Scientifique

SO PCT Int. Appl., 66 pp.

CODEN: PIXXD2

DT Patent

LA French

IC ICM C07C317-04

ICS C07D339-06; C07D311-82; C07C317-12; C08G061-02; C08F232-04;
H01M010-40; H01M006-16

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 23, 24, 25, 28, 52, 67

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9928292	A1	19990610	WO 1998-FR2585	19981201
	W: CA, JP, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 968181	A1	20000105	EP 1998-958294	19981201
	R: DE, FR, GB, IT				
	JP 2002500678	T2	20020108	JP 1999-530206	19981201
	US 2002009635	A1	20020124	US 2001-859784	20010516
PRAI	CA 1997-2224046	A	19971201		
	CA 1998-2228801	A	19980203		
	WO 1998-FR2585	W	19981201		
	US 1999-355454	A1	19990924		

OS MARPAT 131:59262

AB An ionic compn. comprises a salt dissolved in a solvent and has a cond. >10⁻⁵ S/cm between -30 and +150.degree.. The cation is a proton, hydronium, hydroxonium, nitrosonium (NO⁺), NH₄⁺, or an org. or organometallic metal cation. The anion is a carbanion bearing a

perfluorinated substituent or a substituent at least bearing a F on the .alpha. carbon of the carbanion, and two nonperfluorinated electron-withdrawing substituents. The compn. can be used as an **electrolyte** in electrochem. devices, as a catalyst for chem. reactions, and as a photochem. or **thermochem.** initiator for polymn. or crosslinking reactions. Thus, $\text{CH}_2(\text{SO}_2\text{Cl})_2$ was amidated with Me_2NH , treated with NaH , condensed with (trifluoromethylsulfonyl)imidazole, and neutralized with K_2CO_3 to give $(\text{Me}_2\text{NSO}_2)_2\text{C}-(\text{SO}_2\text{CF}_3) \text{K}^+$, which was exchanged with LiCl to give $(\text{Me}_2\text{NSO}_2)_2\text{C}-(\text{SO}_2\text{CF}_3) \text{Li}^+$ (I), sol. in polar org. solvents and in poly(ethylene oxide) (II). A soln. of I in II at $\text{O/Li} = 12$ shows ionic cond. $>10^{-4} \text{ S/cm}$ at 60°C ; an acetone soln. of I is a catalyst for the Diels-Alder reaction; and a combination of I with an ethylene oxide-allyl glycidyl ether-Me glycidyl ether copolymer at $\text{O/Li} = 20$ serves as an **electrolyte** in a Li battery. The analog $\text{Me}_2\text{NSO}_2\text{C}-(\text{SO}_2\text{CF}_3)\text{SO}_2\text{C}_6\text{H}_4\text{CH}:\text{CH}_2\text{-p Li}^+$ was prepd. and copolymd. 6:4 with acrylonitrile, and the resulting polymer 30, ethylene carbonate 35, and propylene carbonate 35% were combined to give a polyelectrolyte gel with ionic cond. $>10^{-4} \text{ S/cm}$ at 30°C .

- ST perfluoroalkyl sulfone ionic conductor; battery **electrolyte**
perfluoroalkyl sulfone salt
- IT Coating materials
(anticorrosive; prepn. of polymeric perfluorocarbyl sulfone salts as)
- IT Polyoxyalkylenes, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(matrix; perfluorocarbyl sulfone salts as ionic conductors in)
- IT Crosslinking catalysts
(photochem.; prepn. of polymeric perfluorocarbyl sulfone salts as)
- IT Polymerization catalysts
(photopolymn.; prepn. of polymeric perfluorocarbyl sulfone salts as)
- IT Battery **electrolytes**
Diels-Alder reaction catalysts
Fuel cell **electrolytes**
Ionic conductors
(prepn. of perfluorocarbyl sulfone salts as)
- IT Antistatic agents
Electrochromic materials
Photoelectric devices
Solvents
(prepn. of polymeric perfluorocarbyl sulfone salts as)
- IT 3240-34-4
RL: MOA (Modifier or additive use); USES (Uses)
(dopant; prepn. of perfluorocarbyl sulfone salt polymers as ionic conductors)
- IT 25322-68-3 136474-71-0, Allyl glycidyl ether-ethylene oxide-glycidyl methyl ether copolymer 227938-61-6
RL: TEM (Technical or engineered material use); USES (Uses)
(matrix; perfluorocarbyl sulfone salts as ionic conductors in)
- IT 3520-42-1, Sulforhodamine B
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of perfluorocarbyl sulfone salts)
- IT 227938-71-8P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation);

USES (Uses)
 (prepn. of perfluorocarbyl sulfone salts as Diels-Alder catalysts)

IT 5063-03-6, 5-Acetyl-2-norbornene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of perfluorocarbyl sulfone salts as catalysts for Diels-Alder
 prepn. of)

IT 107-25-5 542-92-7, Cyclopentadiene, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of perfluorocarbyl sulfone salts as catalysts for Diels-Alder
 reaction of)

IT 227937-20-4P 227938-65-0P 227938-68-3P
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or
 engineered material use); PREP (Preparation); USES (Uses)
 (prepn. of perfluorocarbyl sulfone salts as ionic conductors)

IT 111-92-2, Dibutylamine 124-40-3, reactions 335-05-7,
 Trifluoromethanesulfonyl fluoride 589-15-1, p-Bromobenzyl bromide
 2633-67-2, p-Styrenesulfonyl chloride 5089-70-3, (3-
 Chloropropyl)triethoxysilane 5799-68-8, Methanedisulfonyl dichloride
 26413-19-4, 1,3-Dithiolane 1,1,3,3-tetraoxide 29540-81-6 31876-38-7D,
 Moniliformin, alkali metal salts 41804-89-1, Potassium triflinate
 51270-39-4, 1-Bromo-N,N-dimethylmethanesulfonamide 65039-09-0,
 1-Ethyl-3-methyl-1H-imidazolium chloride
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (prepn. of perfluorocarbyl sulfone salts as ionic conductors)

IT 173852-59-0P 227938-52-5P 227938-53-6P 227938-57-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. of perfluorocarbyl sulfone salts as ionic conductors)

IT 227938-73-0P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of perfluorocarbyl sulfone salts as ionic conductors)

IT 227938-49-0DP, potassium ion-exchanged 227938-51-4DP, potassium
 ion-exchanged 227938-55-8P 227938-59-2P 227938-63-8P
 227938-69-4P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material
 use); PREP (Preparation); USES (Uses)
 (prepn. of perfluorocarbyl sulfone salts as ionic conductors)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 RE

- (1) Centre National Recherche Scientifique; EP 0850921 A 1998 CAPLUS
- (2) Centre National Recherche Scientifique; EP 0850932 A 1998 CAPLUS
- (3) Dominey, L; US 5273840 A 1993 CAPLUS
- (4) Lee, H; US 5538812 A 1996 CAPLUS
- (5) Ogoiko, P; Chelate complexes of trifluoromethanesulphonylmalonate with
 metals 1978, 18, P612 CAPLUS
- (6) Ogoiko, P; UKR KHIM ZH 1977, V43(12), P1298 CAPLUS

L77 ANSWER 31 OF 58 CAPLUS COPYRIGHT 2003 ACS
 AN 1999:223107 CAPLUS
 DN 130:269649
 TI An electrochemical energy storage device with high capacity and low space
 requirement

IN Burger, Wolfgang; Hertel, Peter; Wendl, Manfred
 PA W.L. Gore & Associates G.m.b.H., Germany
 SO PCT Int. Appl., 28 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 IC ICM H01M006-18
 ICS H01G009-02
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38, 76

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9916138	A1	19990401	WO 1998-EP6032	19980922
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	AU 9894414	A1	19990412	AU 1998-94414	19980922
	EP 1018176	A1	20000712	EP 1998-947543	19980922
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 2001517876	T2	20011009	JP 2000-513331	19980922
PRAI	DE 1997-19741736	A	19970922		
	WO 1998-EP6032	W	19980922		
AB	An electrochem. energy storage means with at least two electrodes and an electrolyte , a carrier material for the electrolyte being disposed between the electrodes, and the carrier material including a porous material in whose inner pore structure a perfluorinated surface-active substance is present.				
ST	electrochem energy storage device; capacitor electrochem energy storage device				
IT	Perfluoro compounds Perfluoro compounds				
	RL: TEM (Technical or engineered material use); USES (Uses) (carboxylic acids; electrochem. energy storage device with high capacity and low space requirement)				
IT	Capacitors Surface tension Surfactants (electrochem. energy storage device with high capacity and low space requirement)				
IT	Fluoropolymers , uses RL: DEV (Device component use); USES (Uses) (electrochem. energy storage device with high capacity and low space requirement)				
IT	Fluoro rubber RL: TEM (Technical or engineered material use); USES (Uses)				

- (electrochem. energy storage device with high capacity and low space requirement)
- IT **Fluoropolymers**, uses
 - RL: TEM (Technical or engineered material use); USES (Uses)
 - (electrochem. energy storage device with high capacity and low space requirement)
- IT Polyethers, uses
 - RL: TEM (Technical or engineered material use); USES (Uses)
 - (fluorine-contg., diphosphate; electrochem. energy storage device with high capacity and low space requirement)
- IT Surfactants
 - (fluorosurfactants; electrochem. energy storage device with high capacity and low space requirement)
- IT Ceramics
 - (nanoscale; electrochem. energy storage device with high capacity and low space requirement)
- IT Betaines
 - RL: TEM (Technical or engineered material use); USES (Uses)
 - (perfluorinated; electrochem. energy storage device with high capacity and low space requirement)
- IT Polyethers, uses
 - RL: TEM (Technical or engineered material use); USES (Uses)
 - (perfluoro, diphosphate; electrochem. energy storage device with high capacity and low space requirement)
- IT Carboxylic acids, uses
 - Carboxylic acids, uses
 - Sulfonic acids, uses
 - Sulfonic acids, uses
 - RL: TEM (Technical or engineered material use); USES (Uses)
 - (perfluoro; electrochem. energy storage device with high capacity and low space requirement)
- IT Diphosphates
 - RL: TEM (Technical or engineered material use); USES (Uses)
 - (perfluoropolyether; electrochem. energy storage device with high capacity and low space requirement)
- IT **Fluoropolymers**, uses
 - Fluoropolymers**, uses
 - RL: TEM (Technical or engineered material use); USES (Uses)
 - (polyether-, diphosphate; electrochem. energy storage device with high capacity and low space requirement)
- IT Perfluoro compounds
 - Perfluoro compounds
 - RL: TEM (Technical or engineered material use); USES (Uses)
 - (sulfonic acids; electrochem. energy storage device with high capacity and low space requirement)
- IT Plastics, uses
 - RL: TEM (Technical or engineered material use); USES (Uses)
 - (thermoplastics; electrochem. energy storage device with high capacity and low space requirement)
- IT 9002-84-0, Ptfе
 - RL: DEV (Device component use); USES (Uses)
 - (electrochem. energy storage device with high capacity and low space requirement)

requirement)

IT 67-63-0, Isopropyl alcohol, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (electrochem. energy storage device with high capacity and low space requirement)

IT 2795-39-3, Fluortensid FT 800 56773-42-3, Fluortensid FT 248
 121652-76-4, MF 201 221680-96-2, HOE-T 4260
 RL: TEM (Technical or engineered material use); USES (Uses)
 (surfactant; electrochem. energy storage device with high capacity and low space requirement)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Asahi Kasei Kogyo Kk; JP 06342666 A 1994 CAPLUS
- (2) Japan Gore Tex Inc; EP 0718903 A 1996 CAPLUS
- (3) Japan Gore Tex Inc; WO 9811614 A 1998 CAPLUS
- (4) Nitto Denko Corp; JP 06151249 A 1994 CAPLUS
- (5) Shoibal, B; US 5795668 A 1998 CAPLUS
- (6) Tonen Corp; JP 04204522 A 1992 CAPLUS

L77 ANSWER 32 OF 58 CAPLUS. COPYRIGHT 2003 ACS

AN 1998:621355 CAPLUS

DN 129:267068

TI Electroplating apparatus and process for reducing oxidation of oxidizable plating anions and cations

IN Calhoun, Robert B.; Johns, Earl C.

PA Quantum Corp., USA

SO PCT Int. Appl., 50 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM C25D007-00

ICS C25D005-00; G11B005-187

CC 72-8 (Electrochemistry)

Section cross-reference(s): 55, 56

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9840539	A1	19980917	WO 1998-US5050	19980313
	W: AU, CA, CN, JP, KR, SG				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	AU 9865563	A1	19980929	AU 1998-65563	19980313
	EP 920545	A1	19990609	EP 1998-911656	19980313
	R: DE, FR, GB, IT, NL				
	JP 2000510913	T2	20000822	JP 1998-539884	19980313
PRAI	US 1997-818472	A	19970313		
	WO 1998-US5050	W	19980313		

AB An electroplating app. and method reduces oxidn. of thermodynamically unstable and oxidizable ionic species in an electroplating soln. to deposit complex magnetic alloy onto substrates. The electroplating app. comprises an electroplating cell in which oxidn. of oxidizable anions and cations is reduced. The cell comprises an anode compartment with anolyte soln. in contact with the anode, a cathode

compartment with catholyte soln. contg. oxidizable plating anions in contact with the cathode. A cation selective membrane separates the electrode compartments. Upon application of a voltage or power supply across the anode and cathode, the transport of oxidizable plating anions and to a lesser degree cations, to the anode is substantially blocked by the cation-selective semi-permeable membrane, thereby reducing oxidn. of the oxidizable anions and cations at the anode. The concn. of the anolyte and catholyte solns. can be tailored, and an inert gas can be maintained above the electrolyte soln. in an enclosed region to further reduce oxidn.

- ST electroplating app reducing oxidn anion cation
- IT Electrodeposition apparatus
 - (electroplating app. and process for reducing oxidn. of oxidizable plating anions and cations)
- IT Anions
 - Cations
 - (electroplating app. comprises an electroplating cell in which oxidn. of oxidizable anions and cations is reduced)
- IT **Fluoropolymers**, uses
 - RL: DEV (Device component use); USES (Uses)
 - (electroplating app. contg. cation-selective semi-permeable membrane made of)
- IT Magnetic recording heads
 - (electroplating techniques used for forming)
- IT Noble gases, uses
 - RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 - (in enclosed region above the surface of the electroplating bath in the electroplating app. for reducing oxidn. of oxidizable plating anions and cations)
- IT Oxidation
 - (method for reducing oxidn. of **thermodynamically** unstable and oxidizable ionic species in an electroplating soln. to deposit complex magnetic alloy onto substrates)
- IT Membranes, nonbiological
 - (semipermeable, cation-selective; electroplating app. contg. cation-selective semi-permeable membrane for reducing oxidn. of oxidizable plating anions and cations)
- IT 74-94-2, Dimethylamine borane 7772-99-8, Stannous chloride, reactions 7803-55-6, Ammonium metavanadate 13968-08-6, Hydronium cation 14259-85-9 14901-63-4, Orthophosphite 15460-68-1, Hypophosphite
 - RL: RCT (Reactant); RACT (Reactant or reagent)
 - (electroplating app. comprises an electroplating cell in which oxidn. of oxidizable anions and cations is reduced)
- IT 71-43-2D, Benzene, divinyl derivs., uses 9003-53-6, Polystyrene
 - RL: DEV (Device component use); USES (Uses)
 - (electroplating app. contg. cation-selective semi-permeable membrane made of)
- IT 74-82-8, Methane, processes
 - RL: PEP (Physical, engineering or chemical process); PROC (Process)
 - (non-oxidizing gas; feeding CH₄ into enclosed region above the surface of the electroplating bath in the electroplating app. for reducing

oxidn. of oxidizable plating anions and cations)

IT 1333-74-0, Hydrogen, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)
(non-oxidizing gas; feeding H₂ into enclosed region above the surface
of the electroplating bath in the electroplating app. for reducing
oxidn. of oxidizable plating anions and cations)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (5) Franke; US 4207151 A 1980 CAPLUS
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- (7) Kedem; US 5714521 A 1998 CAPLUS
- (8) Kovac; US 3716464 A 1973
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- (10) Omata; US 5011581 A 1991 CAPLUS
- (11) Sampson; US 5705050 A 1998 CAPLUS
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L77 ANSWER 33 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1998:612844 CAPLUS

DN 129:331098

TI Bicontinuous-Nanostructured Polymeric Materials from Microemulsion
Polymerization

AU Chew, C. H.; Li, T. D.; Gan, L. H.; Quek, C. H.; Gan, L. M.

CS Department of Chemistry, National University of Singapore, Singapore,
119260, Singapore

SO Langmuir (1998), 14(21), 6068-6076

CODEN: LANGD5; ISSN: 0743-7463

PB American Chemical Society

DT Journal

LA English

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 46

AB Transparent bicontinuous nanostructured polymeric materials were
synthesized via the polymn. of bicontinuous microemulsions of appropriate
formulations. The use of polymerizable zwitterionic betaine surfactant of
(acryloyloxy)undecyldimethylammonio acetate (AUDMAA) and cationic
surfactant (acryloyloxy)undecyltrimethylammonium bromide (AUTMAB) is the
key factor to the success of the stable polymn. The nanostructures
(pores) of polymeric materials were characterized by SEM,
thermoporometry, and membrane-filtration of poly(ethylene glycol)
having different mol. wts. The pore size or the width of the polymd.
bicontinuous microemulsions (transparent solid polymers) increased
substantially from about 20 to 100 nm with the increase of the water
content (20-60 wt.-%) or NaCl concn. (0-2 wt.-%) in precursor
microemulsions. In contrast, the incorporation of 12 wt.-% HEMA in the
precursor microemulsion reduced the pore size drastically to about 2 nm.

This total polymn. (except water) approach enables one to synthesize various bicontinuous nanostructures (2-150 nm) of transparent polymeric materials by simply adjusting the concns. of water, HEMA, polymerizable surfactant, and electrolyte in precursor bicontinuous microemulsions.

- ST microemulsion polymn bicontinuous nanostructure surfactant mixt
- IT Electric conductivity
- Nanostructures
- Phase diagram
- Polymer morphology
- (bicontinuous-nanostructured polymeric materials from microemulsion polymn.)
- IT Surfactants
- (cationic; bicontinuous-nanostructured polymeric materials from microemulsion polymn.)
- IT Polymerization
- (microemulsion; bicontinuous-nanostructured polymeric materials from microemulsion polymn.)
- IT Surfactants
- (zwitterionic; bicontinuous-nanostructured polymeric materials from microemulsion polymn.)
- IT 183954-52-1P 189309-32-8P 189309-36-2P
- 215191-76-7P
- RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); PREP. (Preparation); PROC (Process)
- (bicontinuous-nanostructured polymeric materials from microemulsion polymn.)

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (20) Nakao, S; J Membr Sci 1994, V96, P131 CAPLUS
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- (27) Sasthay, M; Langmuir 1991, V7, P1378
- (28) Stoffer, J; J Dispersion Sci Techol 1980, V1, P393 CAPLUS

- L77 ANSWER 34 OF 58 CAPLUS COPYRIGHT 2003 ACS
- AN 1998:483695 CAPLUS
- DN 129:236910
- TI Ionic liquid-polymer gel composite **electrolytes**
- AU Fuller, J.; Breda, A. C.; Carlin, R. T.
- CS SAF/AQR, Arlington, VA, 22202-3053, USA
- SO Molten Salt Forum (1998), 5-6 (Molten Salt Chemistry and Technology 5), 605-608
- CODEN: MOSFF2; ISSN: 1021-6138
- PB Trans Tech Publications Ltd.
- DT Journal
- LA English
- CC 72-11 (Electrochemistry)
- Section cross-reference(s): 37, 52, 76
- AB We have performed preliminary studies examg. the electrochem. properties of new **electrolytes** produced by mixing room-temp. ionic liqs. or other imidazolium salts with the org. polymers. These salt-and-polymer blends exhibit exceptional properties, i.e. high cond., **thermal** stability, nonvolatility, and dimensional stability, for application in batteries, fuel cells, or capacitors as highly conductive polymer **electrolytes**.
- ST ionic liq polymer gel composite **electrolyte**; imidazolium salt org polymer **electrolyte** property
- IT Redox reaction
(electrochem.; staircase voltammetry at glassy carbon microelectrode for poly(vinylidene fluoride)-hexafluoropropylene copolymer)
- IT Polyoxyalkylenes, uses
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(fabrication of ionic liq.-polymer gel composite **electrolytes** with)
- IT Gels
(ionic liq. polymer gel **electrolytes** of imidazolium salts with the org. polymers)
- IT **Electrolytes**
(ionic liq. polymer gel of imidazolium salts with the org. polymers)
- IT Battery **electrolytes**
(ionic liq.-polymer gel composite **electrolytes**)
- IT Cyclic voltammetry
Electric impedance
Ionic conductivity
(of ionic liq. polymer gel **electrolytes** of imidazolium salts with the org. polymers)
- IT **Thermal** stability
(of poly(vinylidene fluoride)-hexafluoropropylene copolymer films)
- IT Conducting polymers

(poly(vinylidene fluoride)-hexafluoropropylene copolymer films)

IT 108-10-1 108-32-7, Propylene carbonate 25322-68-3, PEO
145022-44-2, 1-Ethyl-3-methylimidazolium triflate
RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
(fabrication of ionic liq.-polymer gel composite **electrolytes**
with)

IT 143314-16-3, 1-Ethyl-3-methylimidazolium tetrafluoro borate
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(fabrication of ionic liq.-polymer gel composite **electrolytes**
with)

IT 7440-44-0, Glassy carbon, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(glassy; staircase voltammetry at glassy carbon microelectrode for
poly(vinylidene fluoride)-hexafluoropropylene copolymer)

IT 9011-17-0
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical
process); POF (Polymer in formulation); PRP (Properties); PROC (Process);
USES (Uses)
(ionic liq.-polymer gel composite **electrolytes**)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

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- (3) Carlin, R; US 5552238 1996 CAPLUS
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1992, V92-16, P386
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- (13) Papageorgiou, N; J Electrochem Soc 1996, V143, P3099 CAPLUS
- (14) Wilkes, J; J Chem Soc, Chem Comm 1992, P965 CAPLUS

L77 ANSWER 35 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1997:720062 CAPLUS

DN 127:351059

TI A compact solid gel containing water

IN Avalle, Nadia

PA Intercos Italia S.P.A., Italy

SO Eur. Pat. Appl., 5 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM A61K007-48

CC 62-4 (Essential Oils and Cosmetics)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 803245	A1	19971029	EP 1997-201129	19970416
	EP 803245	B1	20010912		
	R: DE, ES, FR, GB, IT				
	ES 2161413	T3	20011201	ES 1997-201129	19970416
	US 5928655	A	19990727	US 1997-837821	19970422
PRAI	IT 1996-MI792	A	19960423		

AB A compact solid gel is described contg. water, in a concn. ranging from 15% to 90%, **thermoreversible** polysaccharides in a concn. ranging from 0.3% to 4%, humectant compds. in a concn. ranging from 4% to 40%, and powder phase in a concn. ranging from 2% to 35%. A solid sunscreen gel contained water 57.18, mica 9.00, micro titanium dioxide 8.10, polysaccharide 5.00, hexylene glycol 5.00, glycerin 4.50, dimethicone copolyol 4.5, PEG-200 3.20, fragrance 0.70, xanthan gum 1.00, phenoxyethanol 0.3, Me paraben 0.20, lauroyl lysine 0.20, Pr paraben 0.10, carrageenan 1.0, and sodium hyaduronate 0.02%.

ST solid gel water polysaccharide humectant

IT Anions

Cations

Electrolytes

Humectants

(compact solid gel contg. water)

IT Acrylic polymers, biological studies

Alkali metal salts

Alkaline earth salts

Amino acids, biological studies

Kaolin, biological studies

Lecithins

Mica-group minerals, biological studies

Polyoxyalkylenes, biological studies

Polysaccharides, biological studies

Polysiloxanes, biological studies

Soaps

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(compact solid gel contg. water)

IT Polyoxyalkylenes, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(di-Me, Me hydrogen polysiloxane-; compact solid gel contg. water)

IT Polysiloxanes, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(di-Me, Me hydrogen, polyoxyalkylene-; compact solid gel contg. water)

IT Fatty acids, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(esters; compact solid gel contg. water)

IT Polyethers, biological studies

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)

(fluorine-contg.; compact solid gel contg. water)

IT Cosmetics
Sunscreens
Sunscreens
(gels; compact solid gel contg. water)

IT Carboxylic acids, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)
(hydroxy; compact solid gel contg. water)

IT Cosmetics
(makeups; compact solid gel contg. water)

IT Polyethers, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)
(perfluoro; compact solid gel contg. water)

IT **Fluoropolymers**, biological studies
Fluoropolymers, biological studies
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)
(polyether-; compact solid gel contg. water)

IT 50-21-5, Lactic acid, biological studies 50-70-4, Sorbitol, biological studies 56-81-5, Glycerin, biological studies 69-65-8, Mannitol 77-92-9, Citric acid, biological studies 87-69-4, Tartaric acid, biological studies 87-99-0, Xylitol 107-41-5, Hexylene glycol 110-15-6, Succinic acid, biological studies 111-29-5, Pentylene glycol 822-16-2, Sodium stearate 1314-13-2, Zinc oxide, biological studies 1332-37-2, Iron oxide, biological studies 1390-65-4, Carmine 3812-32-6, Carbonate ion, biological studies 6915-15-7, Malic acid 7631-86-9, Silica, biological studies 7787-59-9, Bismuth oxychloride 9000-07-1, Carrageenin 9002-18-0, Agar 9002-88-4, Polyethylene 9003-11-6D, Polyoxyethylene polyoxypropylene, derivs. 9005-25-8, Starch, biological studies 9005-32-7, Alginic acid 9006-65-9, Dimethicone 10101-66-3, Manganese violet 11118-57-3, Chromium oxide 11138-66-2, Xanthan gum 12626-43-6, Chromium hydroxide 13463-67-7, Titanium dioxide, biological studies 14127-61-8, Calcium ion, biological studies 14265-44-2, Phosphate, biological studies 14807-96-6, Talc, biological studies 14808-79-8, Sulfate ion, biological studies 16887-00-6, Chloride anion, biological studies 17341-25-2, Sodium ion, biological studies 22537-22-0, Magnesium ion, biological studies 24203-36-9, Potassium ion, biological studies 24937-16-4, Nylon 12 25086-62-8, Poly(Sodium methacrylate) 25265-71-8, Dipropylene glycol 25265-75-2, Butylene glycol 25322-69-4, Polypropylene glycol 52357-70-7, Brown iron oxide 57455-37-5, Ultramarine blue 59409-41-5 142804-65-7, Gellan 184436-44-0, Ultramarine rose
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)
(compact solid gel contg. water)

L77 ANSWER 36 OF 58 CAPLUS COPYRIGHT 2003 ACS
AN 1997:305731 CAPLUS
DN 127:57152
TI Ionic liquid-polymer gel electrolytes
AU Fuller, J.; Breda, A. C.; Carlin, R. T.

- CS Covalent Associates, Incorporated, Woburn, MA, 01801, USA
 SO Journal of the Electrochemical Society (1997), 144(4), L67-L70
 CODEN: JESOAN; ISSN: 0013-4651
 PB Electrochemical Society
 DT Journal
 LA English
 CC 72-11 (Electrochemistry)
 Section cross-reference(s): 52
 AB New rubbery gel **electrolytes** were prepd. from room-temp. ionic liqs. and poly(vinylidene fluoride)-hexafluoropropylene copolymer [PVdF(HFP)]. The ionic liqs. employed in these preps. were 1-ethyl-3-methylimidazolium salts of triflate (CF₃SO₃⁻) and BF₄⁻. When properly processed, the ionic liq.-PVdF(HFP) gels are freestanding, flexible films with room-temp. conductivities ranging from 1.1 to 5.8 mS/cm. Because both the ionic liqs. and the PVdF(HFP) are nonvolatile and are **thermally** stable, the gels can be operated at elevated temps. without performance degrdn. An ionic cond. of 41 mS/cm was measured for a triflate ionic liq.-PVdF(HFP) gel at 205.degree.C. These novel liqs. have many desirable electrochem. and materials properties.
 ST ionic liq polymer gel **electrolyte**; polyvinylidene hexafluoropropylene copolymer ion liq; ethylmethylimidazolium salt triflate tetrafluoroborate ionic liq; battery **electrolyte** ionic liq polymer gel
 IT Redox reaction
 (electrochem.; staircase voltammetry at platinum disk microelectrode in neat 1-ethyl-3-methylimidazolium salts of triflate and in freestanding ionic liq.-polymer gel **electrolyte**)
 IT Battery **electrolytes**
Electrolytes
 (ionic liq.-polymer gel)
 IT Gels
 (ionic liq.-polymer gel **electrolytes**)
 IT Electric impedance
 (of ionic liq.-polymer gel **electrolyte**)
 IT Ionic conductivity
 (of liq.-polymer gel **electrolytes**)
 IT 108-10-1, 4-Methyl-2-pentanone 108-32-7, Propylene carbonate
 RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)
 (behavior of ionic liq. -poly(vinylidene fluoride)-hexafluoropropylene gel **electrolytes** in solvent contg.)
 IT 429-06-1, Tetraethylammonium tetrafluoroborate
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (behavior with poly(vinylidene fluoride)-hexafluoropropylene copolymer)
 IT 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer
 RL: PEP (Physical, engineering or chemical process); POF (Polymer in formulation); PRP (Properties); PROC (Process); USES (Uses)
 (ionic liq.-polymer gel **electrolytes** contg.)
 IT 143314-16-3, 1-Ethyl-3-methylimidazolium tetrafluoroborate
 145022-44-2, 1-Ethyl-3-methylimidazolium triflate
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)

(ionic liq.-polymer gel **electrolytes** contg.)

- L77 ANSWER 37 OF 58 CAPLUS COPYRIGHT 2003 ACS
 AN 1997:173166 CAPLUS
 DN 126:172309
 TI Influences of solvent on the ionic conductivity of PVA-NH₄SCN complex
 AU Shukla, P. K.; Agrawal, S. L.
 CS Dep. Physics, A P S Univ., Rewa, 486 003, India
 SO Bulletin of Electrochemistry (1996), 12(11-12), 732-737
 CODEN: BUELE6; ISSN: 0256-1654
 PB Central Electrochemical Research Institute
 DT Journal
 LA English
 CC 37-5 (Plastics Manufacture and Processing)
 AB The present work reports the influence of casting solvents water and DMSO (DMSO) on the ion conducting properties of NH₄SCN doped PVA polymer **electrolytes**. Thermal characterization of PVA-NH₄SCN complexes through DSC and TG anal. indicated complexation of salt with polymer host for both the solvents. Polarization studies indicate the ionic nature of these complexes. The ionic cond. revealed a max. of 1.92 .times. 10⁻⁵ S.cm⁻¹ for 20% NH₄SCN in water casted films while it was 7.0 .times. 10⁻⁵ S.cm⁻¹ for 15% salt concn. in DMSO casted films. Further, the temp. dependence of ionic cond. seems to follow Arrhenius relationship. The sudden change of cond. in intermediate temp. range have been related to the increase in dielec. const. of the complex instead of any distinct morphol. transitions. The large variation in ionic cond. in DMSO casted films is probably due to the plasticizing effect of DMSO during synthesis.
- ST ionic cond polyvinyl alc complex; ammonium thiocyanate complex polyvinyl alc; battery **electrolyte** polyvinyl alc complex
 IT Battery **electrolytes**
 Ionic conductivity
 Solvent effect
 (influences of solvent on the ionic cond. of PVA-NH₄SCN complex)
- IT 1762-95-4, Ammonium sulfocyanate
 RL: MOA (Modifier or additive use); USES (Uses)
 (dopant; influences of solvent on the ionic cond. of PVA-NH₄SCN complex)
- IT 9002-89-5, Poly(vinyl alcohol)
 RL: PRP (Properties)
 (influences of solvent on the ionic cond. of PVA-NH₄SCN complex)
- L77 ANSWER 38 OF 58 CAPLUS COPYRIGHT 2003 ACS
 AN 1996:554996 CAPLUS
 DN 125:223711
 TI **Thermoosmosis** and Transported Entropy of Water across Poly(4-vinylpyridine/styrene) and Poly(N-vinyl-2-methylimidazole/styrene) Type Membranes in **Electrolyte** Solutions
 AU Tasaka, Masayasu; Suzuki, Takashi; Kiyono, Ryotaro; Hamada, Masato; Yoshie, Kiyotaka
 CS Faculty of Engineering, Shinshu University, Nagano, 380, Japan
 SO Journal of Physical Chemistry (1996), 100(40), 16361-16364

CODEN: JPCHAX; ISSN: 0022-3654

PB American Chemical Society

DT Journal

LA English

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 37

AB Poly(4-vinylpyridine/styrene) and poly(N-vinyl-2-methylimidazole/styrene) type membranes (SA-14 and SA-15) were prep'd. as weak-base anion-exchange membranes, and strong-base anion-exchange membranes (SA-14(4) and SA-15(4)) were prep'd. by quaternizing them with CH₃I. Solvent transport across the membranes was measured in **electrolyte** solns. under a temp. difference. **Thermoosmosis** toward the cold soln. side was clearly obs'd. for membranes SA-14 and SA-15 in KCl and HCl solns. However, the direction of **thermoosmosis** was toward the hot side in H₂SO₄ solns. because the membrane is considerably ionized with H₂SO₄ and the water in the membrane is more stabilized than that in the external solns. **Thermoosmosis** across the quaternized membranes SA-14(4) and SA-15(4) occurred toward the hot side in KCl and KIO₃ solns. The difference between the mean transported entropy of water in the membrane, $\Delta_{\text{ovrhdr}}s_0$, and the partial molar entropy of the external soln., s_0 , was est'd. from the **thermoosmotic** data by combining the exptl. data of water flux under an osmotic pressure difference. The values of $(\Delta_{\text{ovrhdr}}s_0 - s_0)$ in KCl solns. were pos. for membranes SA-14 and SA-15 and neg. for membranes SA-14(4) and SA-15(4).

ST **thermoosmosis** transport entropy anion exchanging membrane; vinylmethylimidazole styrene divinylbenzene quaternized membrane **thermoosmosis**; vinylpyridine styrene divinylbenzene quaternized membrane **thermoosmosis**

IT Heat of transfer and Heat of transport

(**thermoosmosis** and transported entropy of water across poly(4-vinylpyridine/styrene) and poly(N-vinyl-2-methylimidazole/styrene) type membranes in **electrolyte** solns.)

IT Anion exchangers

(membranes, **thermoosmosis** and transported entropy of water across poly(4-vinylpyridine/styrene) and poly(N-vinyl-2-methylimidazole/styrene) type membranes in **electrolyte** solns.)

IT Osmosis

(**thermo**-, **thermoosmosis** and transported entropy of water across poly(4-vinylpyridine/styrene) and poly(N-vinyl-2-methylimidazole/styrene) type membranes in **electrolyte** solns.)

IT 7447-40-7, Potassium chloride, uses 7647-01-0, Hydrogen chloride, uses 7664-93-9, Sulfuric acid, uses 7758-05-6, Potassium iodate

RL: NUU (Other use, unclassified); USES (Uses)

(external soln.; **thermoosmosis** and transported entropy of water across poly(4-vinylpyridine/styrene) and poly(N-vinyl-2-methylimidazole/styrene) type membranes in **electrolyte** solns.)

IT 7732-18-5, Water, processes

RL: PEP (Physical, engineering or chemical process); PROC (Process)

(thermoosmosis and transported entropy of water across poly(4-vinylpyridine/styrene) and poly(N-vinyl-2-methylimidazole/styrene) type membranes in electrolyte solns.)

IT 9017-45-2, Divinylbenzene-styrene-4-vinylpyridine copolymer
58285-32-8, Divinylbenzene-styrene-N-vinyl-2-methylimidazole
copolymer 62744-50-7 64422-43-1

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM
(Technical or engineered material use); PROC (Process); USES (Uses)

(thermoosmosis and transported entropy of water across poly(4-vinylpyridine/styrene) and poly(N-vinyl-2-methylimidazole/styrene) type membranes in electrolyte solns.)

L77 ANSWER 39 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1994:108583 CAPLUS

DN 120:108583

TI Conductivity and phase structure of blend based proton polymeric
electrolytes. II: Ammonium salts complexes

AU Dabrowska, A.; Wieczorek, W.

CS Inst. Solid State Technol., Warsaw Univ. Technol., Warsaw, 00-664, Pol.

SO Materials Science & Engineering, B: Solid-State Materials for Advanced
Technology (1994), B22(2-3), 117-27

CODEN: MSBTEK; ISSN: 0921-5107

DT Journal

LA English

CC 37-5 (Plastics Manufacture and Processing)

Section cross-reference(s): 76

AB The new class of polymeric **electrolytes** highly conductive at
ambient temp. and based on complexes of ammonium salts with poly(ethylene
oxide)-polymethacrylate or -polyacrylate blends is presented. An increase
in ambient-temp. cond. in comparison with pristine poly(ethylene
oxide)-based **electrolytes** was achieved by suppression of the
polymer crystallinity. The highest values of cond. were obtained for
samples doped with NH₄SCN and exceeded 10⁻⁵ S.cntdot.cm⁻¹ at room temp.
ST polyoxyethylene polyacrylate ammonium salt cond; elec cond polyethylene
oxide blend

IT Electric conductivity and conduction

Glass temperature and transition

(of poly(ethylene oxide)-polyacrylate blends contg. ammonium salts)

IT Electric conductors, polymeric

(poly(ethylene oxide)-polyacrylate blends contg. ammonium salts, elec.
cond. and **thermal** properties of)

IT Quaternary ammonium compounds, properties

RL: PRP (Properties)

(poly(ethylene oxide)-polyacrylate blends contg., elec. cond. and
thermal properties of)

IT 9003-01-4, Poly(acrylic acid) 9003-05-8, Polyacrylamide

9011-14-7, PMMA

RL: PRP (Properties)

(poly(ethylene oxide) blends with ammonium salts, elec. cond. and
thermal properties of)

- IT 1762-95-4, Ammonium thiocyanate 7783-20-2, Sulfuric acid
diammonium salt, properties 7783-28-0
RL: PRP (Properties)
(poly(ethylene oxide)-polyacrylate blends contg., elec. cond. and
thermal properties of)
- IT 25322-68-3, Poly(ethylene oxide)
RL: PRP (Properties)
(polyacrylate blends with ammonium salts, elec. cond. and
thermal properties of)
- L77 ANSWER 40 OF 58 CAPLUS COPYRIGHT 2003 ACS
AN 1992:434345 CAPLUS
DN 117:34345
TI Effects of supporting **electrolyte** on the partitioning of
cation/neutral couples into perfluorosulfonate films
AU Van Ryswyk, Hal; Kim, Chang Hee; Staley, Tabitha A.
CS Dep. Chem., Harvey Mudd Coll., Claremont, CA, 91711, USA
SO Journal of Electroanalytical Chemistry (1992), 325(1-2), 351-7
CODEN: JECHES
DT Journal
LA English
CC 66-4 (Surface Chemistry and Colloids)
Section cross-reference(s): 68, 69
- AB **Thermodyn.** measurements have shown that the partitioning of
cation/neutral couples into Nafion is sensitive to the cation employed in
the supporting **electrolyte**. This sensitivity suggests that
supporting **electrolyte**-induced changes in film morphol. are an
important parameter in the use of polyelectrolytes.
- ST perfluorosulfonate film sepn cation neutral **thermodyn**;
electrolyte supporting effect membrane sepn
- IT Partition
(of cation/neutral couples into perfluoro sulfonate films, supporting
electrolyte effect on)
- IT Cation exchange
(of cation/neutral couples, into Nafion films)
- IT Heat of extraction
(of cationic/neutral couples, **electrolyte** effect on)
- IT Entropy
(of partition, of cationic/neutral couples into Nafion film,
electrolyte effect on)
- IT Free energy
(of partition, of cationic/neutral couples, **electrolyte**
effect on)
- IT Polyoxyalkylenes, properties
RL: PRP (Properties)
(fluorine- and sulfo-contg., ionomers, partition of cation/neutral
couples into film of, effects of supporting **electrolyte** on)
- IT **Fluoropolymers**
RL: PRP (Properties)
(polyoxyalkylene-, sulfo-contg., ionomers, partition of cation/neutral
couples into film of, effects of supporting **electrolyte** on)
- IT Ionomers

RL: PRP (Properties)

(polyoxyalkylenes, fluorine- and sulfo-contg., partition of cation/neutral couples into film of, effects of supporting electrolyte on)

IT 6484-52-2, Ammonium nitrate, properties 7631-99-4, Sodium nitrate, properties 7757-79-1, Potassium nitrate, properties 7789-18-6, Cesium nitrate 7790-69-4, Lithium nitrate

RL: PRP (Properties)

(partition of cation-neutral couples into Nafion film in presence of supporting electrolyte of)

IT 12125-80-3, Ferrocenium 15702-72-4 73788-93-9 124029-36-3

RL: PRP (Properties)

(partition of cations/neutral couples of, into Nafion films, thermodyn. parameters of)

L77 ANSWER 41 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1991:160323 CAPLUS

DN 114:160323

TI Wholly microfabricated biosensors, and manufacture and use thereof

IN Cozzette, Stephen N.; Davis, Graham; Itak, Jeanne A.; Lauks, Imants R.; Mier, Randall M.; Piznik, Sylvia; Smit, Nicolaas; Steiner, Susan J.; Van der Werf, Paul; Wieck, Henry J.

PA I-Stat Corp., USA

SO PCT Int. Appl., 195 pp.

CODEN: PIXXD2

DT Patent

LA English

IC G01N027-26; B01D061-00; B01D063-00; B67D005-00; C12Q001-00

CC 9-7 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9005910	A1	19900531	WO 1989-US5227	19891112
	W: JP, KR				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	US 5200051	A	19930406	US 1989-432714	19891107
	EP 442969	A1	19910828	EP 1990-900548	19891113
	EP 442969	B1	20020227		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 04503249	T2	19920611	JP 1990-500757	19891113
	JP 3105919	B2	20001106		
	AT 213833	E	20020315	AT 1990-900548	19891113
	CA 2002848	AA	19900514	CA 1989-2002848	19891114
	CA 2221178	C	20010123	CA 1989-2221178	19891114
	US 5063081	A	19911105	US 1990-567870	19900815
	US 5212050	A	19930518	US 1990-568441	19900815
	US 5466575	A	19951114	US 1992-943345	19920910
	US 5554339	A	19960910	US 1993-109507	19930819
	US 5837446	A	19981117	US 1995-482517	19950607
	US 5837454	A	19981117	US 1995-484095	19950607
	US 6306594	B1	20011023	US 1998-193370	19981117
	JP 2000065791	A2	20000303	JP 1999-38753	19990217

KOROMA EIC1700

	JP 3137612	B2	20010226		
	US 2002090738	A1	20020711	US 2001-941661	20010830
PRAI	US 1988-270171	A	19881114		
	US 1989-381223	A	19890713		
	US 1989-432714		19891107		
	JP 1990-500757	A3	19891113		
	WO 1989-US5227	W	19891113		
	CA 1989-2002848	A3	19891114		
	US 1992-943345	A3	19920910		
	US 1995-484095	A3	19950607		
	US 1998-193370	A1	19981117		
OS	MARPAT 114:160323				
AB	<p>A microfabricated biosensor which may be uniformly mass produced comprises (a) a base sensor (e.g. an electrochem. transducer); (b) a permselective layer (e.g. a polymer film) optionally contg. an ionophore, superimposed over at least part of layer (a) and sufficiently thick to pass mols. of mol. wt. .ltoreq.50 and exclude mols. of mol. wt. .gtoreq.120; and (c) a biolayer covering at least part of layer (b). The biolayer comprises (i) a bioactive mol. which selectively interacts with an analyte and (ii) a support matrix derived from a photoformable proteinaceous mixt. and/or a film-forming latex through which the analyte can permeate. An electrolyte layer may be interposed between layers (a) and (b). Layer (c) may addnl. be covered by a layer which attenuates analyte transport and a photoresist cap. Layer (b) prevents electroactive interfering species from undergoing redox reactions at the indicator electrode. Methods for conducting assays (e.g. immunoassays) using the sensors are described. Thus, the base sensor for a glucose sensor comprised an array of unit cells on a Si wafer; each unit cell consisted of an Ag/AgCl ref./counter electrode and 2 Ir catalytic electrodes prepd. by plasma deposition or sputtering and std. lithog. techniques including spin-coating with a pos. photoresist. Layer (b) was prepd. by spin-coating an alc. soln. of N-(2-aminoethyl)-3-aminopropyltrimethoxysilane onto the wafer and baking. Layer (c) was prepd. from a mixt. of fish gelatin and ferric ammonium citrate (photoinitiator) to which were added glucose oxidase, crosslinking agent (N,N'-methylenebisacrylamide), and a sugar alc. (to alter the porosity). An attenuation layer contained dimethylsiloxane-bisphenol A carbonate copolymer.</p>				
ST	biosensor permselective polymer photoformable protein; glucose sensor oxidase gelatin				
IT	Blood analysis (IgG and theophylline detn. in, microfabricated biosensor for)				
IT	Body fluid (anal. of, microfabricated biosensor for)				
IT	Albumins, uses and miscellaneous Caseins, uses and miscellaneous Collagens, uses and miscellaneous RL: USES (Uses) (as matrix for bioactive mol., in microfabricated biosensor)				
IT	Glycerides, analysis RL: ANT (Analyte); ANST (Analytical study) (detn. of, with microfabricated biosensor)				

- IT Ligands
 - RL: ANT (Analyte); ANST (Analytical study)
 - (detn. of, with receptor-contg. microfabricated biosensor)
- IT Gas analysis
 - (electrodes for, microfabricated biosensors contg.)
- IT Transition metals, uses and miscellaneous
 - RL: USES (Uses)
 - (indicator electrodes of, in microfabricated biosensor)
- IT Crosslinking agents
 - Electrolytes**
 - Latex
 - Agglutinins and Lectins
 - Antibodies
 - Antigens
 - Deoxyribonucleic acids
 - Enzymes
 - Ribonucleic acids
 - Glycoproteins, uses and miscellaneous
 - Immunoglobulins
 - Proteins, uses and miscellaneous
 - Salts, uses and miscellaneous
 - RL: ANST (Analytical study)
 - (microfabricated biosensor contg.)
- IT Receptors
 - RL: ANST (Analytical study)
 - (microfabricated biosensor contg., for ligand detn.)
- IT Immunochemical analysis
 - (microfabricated biosensor for)
- IT Biosensors
 - (microfabricated, for biochem. anal.)
- IT Gelatins, uses and miscellaneous
 - RL: USES (Uses)
 - (of fish, as matrix for bioactive mol. in microfabricated biosensor)
- IT Ionophores
 - (permselective membrane contg., in microfabricated biosensor)
- IT Rubber, silicone, uses and miscellaneous
 - Siloxanes and Silicones, uses and miscellaneous
 - Urethane polymers, uses and miscellaneous
 - RL: USES (Uses)
 - (permselective membrane, in microfabricated biosensor)
- IT Polymers, uses and miscellaneous
 - RL: USES (Uses)
 - (permselective membranes, in microfabricated biosensor)
- IT Electric conductivity and conduction
 - Sound and Ultrasound
 - (sensor for, in microfabricated biosensor)
- IT Immunoglobulins
 - RL: ANT (Analyte); ANST (Analytical study)
 - (G, detn. of, in blood serum, microfabricated biosensor for)
- IT Electrodes
 - (bio-, enzyme, microfabrication of)
- IT Analysis

- (biochem., microfabricated biosensor for)
- IT Polyoxyalkylenes, uses and miscellaneous
RL: USES (Uses)
(di-Me siloxane-, permselective membranes, in microfabricated biosensor)
- IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(di-Me, polyoxyalkylene-, permselective membranes, in microfabricated biosensor)
- IT Transducers
(electrochem., microfabricated biosensor contg.)
- IT Crown compounds
RL: ANST (Analytical study)
(ethers, as ionophores, permselective membrane contg. in microfabricated biosensor)
- IT Electromagnetic wave
(evanescent, sensor for, in microfabricated biosensor)
- IT Transistors
(field-effect, microfabricated biosensor contg.)
- IT Quaternary ammonium compounds, uses and miscellaneous
RL: USES (Uses)
(halides, as ionophores, permselective membrane contg. in microfabricated biosensor)
- IT Nucleotides, polymers
RL: ANST (Analytical study)
(oligo-, microfabricated biosensor contg.)
- IT Waveguides
(optical, microfabricated biosensor contg.)
- IT Membrane, biological
(permselective, microfabricated biosensor contg., for biochem. anal.)
- IT Resists
(photo-, microfabricated biosensor contg.)
- IT Nucleotides, polymers
Hydroxy compounds
RL: ANST (Analytical study)
(poly-, microfabricated biosensor contg.)
- IT Amines, uses and miscellaneous
RL: USES (Uses)
(tertiary, as ionophores, permselective membrane contg. in microfabricated biosensor)
- IT Electric resistors
(**thermistors**, microfabricated biosensor contg.)
- IT Globulins, uses and miscellaneous
RL: USES (Uses)
(.gamma.-, as matrix for bioactive mol., in microfabricated biosensor)
- IT 2001-95-8, Valinomycin 6833-84-7, Nonactin 17090-79-8, Monensin 28636-21-7, Methylmonensin
RL: ANST (Analytical study)
(as ionophore, permselective membrane contg., in microfabricated biosensor)
- IT 7664-38-2D, Phosphoric acid, esters
RL: ANST (Analytical study)

(as ionophores, permselective membrane contg. in microfabricated biosensor)

IT 1185-57-5, Ferric ammonium citrate 2944-66-3 7778-50-9,
Potassium dichromate 7789-09-5, Ammonium dichromate 22742-18-3
29696-34-2 29696-35-3 133117-70-1 7705-08-0, Ferric
chloride, biological studies
RL: ANST (Analytical study)

(as photosensitizer, in microfabrication of biosensor)

IT 50-81-7, Ascorbic acid, analysis 50-99-7, D-Glucose, analysis 56-65-5,
Adenosine 5'-triphosphate, analysis 57-00-1, Creatine 57-88-5,
Cholesterol, analysis 58-55-9, Theophylline, analysis 64-17-5,
Ethanol, analysis 69-93-2, Uric acid, analysis 124-38-9, Carbon
dioxide, analysis 635-65-4, analysis 7440-09-7, Potassium, analysis
7440-23-5, Sodium, analysis 7440-70-2, Calcium, analysis 7722-84-1,
Hydrogen peroxide, analysis 7782-44-7, Oxygen, analysis 9027-41-2,
Hydrolase 12408-02-5, Hydrogen ion, analysis 14798-03-9, Ammonium,
analysis 16887-00-6, Chloride, analysis
RL: ANT (Analyte); ANST (Analytical study)

(detn. of, with microfabricated biosensor)

IT 7439-88-5, Iridium, uses and miscellaneous 7439-97-6, Mercury, uses and
miscellaneous 7440-04-2, Osmium, uses and miscellaneous 7440-05-3,
Palladium, uses and miscellaneous 7440-06-4, Platinum, uses and
miscellaneous 7440-16-6, Rhodium, uses and miscellaneous 7440-18-8,
Ruthenium, uses and miscellaneous 7440-22-4, Silver, uses and
miscellaneous 7440-44-0, Carbon, uses and miscellaneous 7440-57-5,
Gold, uses and miscellaneous
RL: USES (Uses)

(indicator electrode of, in microfabricated biosensor)

IT 110-26-9D, reaction products with gelatin 9000-86-6, Alanine
transaminase 9000-92-4, Amylase 9000-97-9 9001-15-4 9001-18-7
9001-37-0, Glucose oxidase 9001-51-8, Hexokinase 9001-60-9, Lactate
dehydrogenase 9001-62-1, Lipase 9001-78-9, Alkaline phosphatase
9001-96-1, Pyruvate oxidase 9002-12-4, Uricase 9002-13-5, Urease
9013-79-0, Esterase 9025-13-2, Creatininase 9026-00-0, Cholesterol
esterase 9028-53-9, Glucose dehydrogenase 9028-76-6, Cholesterol
oxidase 9029-22-5 9030-66-4, Glycerol kinase 9032-21-7, NADH oxidase
9046-27-9, .gamma.-Glutamyl transpeptidase 9046-28-0, Glycerol
3-phosphate oxidase 37340-58-2, Creatinase 39346-34-4, L-Glutamate
oxidase 80619-01-8
RL: ANST (Analytical study)

(microfabricated biosensor contg.)

IT 7803-62-5D, Silane, derivs.
RL: ANST (Analytical study)

(permselective films, in microfabricated biosensor)

IT 78-10-4, Tetraethyl orthosilicate 681-84-5, Tetramethyl orthosilicate
682-01-9, Tetrapropyl orthosilicate 919-30-2, 3-
Aminopropyltriethoxysilane 1067-25-0 1760-24-3 2996-92-1
4766-57-8, Tetrabutyl orthosilicate 5089-70-3, 3-
Chloropropyltriethoxysilane 5089-72-5, N-(2-Aminoethyl)-3-
aminopropyltriethoxysilane 7538-44-5 9002-84-0,
Poly(tetrafluoroethylene) 9002-86-2 9004-35-7, Cellulose
acetate 9004-70-0, Cellulose nitrate 13822-56-5, 3-

Aminopropyltrimethoxysilane 24801-88-5, 3-Isocyanatopropyltriethoxysilane 40762-31-0, 11-Aminoundecyltrimethoxysilane 75822-22-9 82887-05-6
120183-15-5 132935-19-4 132935-20-7 132935-22-9
132950-88-0

RL: ANST (Analytical study)
(permselective membrane, in microfabricated biosensor)

L77 ANSWER 42 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1990:564015 CAPLUS

DN 113:164015

TI **Nonflammable** electrolytic capacitor **electrolytes**

IN Nagai, Ryutaro; Sugiura, Takakimi; Iida, Kenichi

PA Hitachi Condenser Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01G009-02

CC 76-10 (Electric Phenomena)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 02146717	A2	19900605	JP 1988-300194	19881128
PRAI	JP 1988-300194		19881128		
AB	The electrolytes mainly consisting of polyhydric alcs. contain Si-contg. poly(vinyl alc.) and boric acid or their salts.				
ST	nonflammable capacitor electrolyte polyhydric alc; silicon polyvinyl alc capacitor electrolyte ; boric acid capacitor electrolyte ; borate capacitor electrolyte				
IT	Electric capacitors (electrolytes for, polyhydric alc., silicon-contg. poly(vinyl alc.) and boric acid in, for nonflammability)				
IT	Fire-resistant materials (electrolytes , capacitor, silicon-contg. poly(vinyl alc.) and boric acid in)				
IT	Alcohols, uses and miscellaneous RL: USES (Uses) (polyhydric, electrolytes , capacitor, silicon-contg. poly(vinyl alc.) and boric acid in, for nonflammability)				
IT	9002-89-5D, Poly(vinyl alcohol), silicon-contg. RL: USES (Uses) (electrolytes contg. boric acid and, capacitor, for nonflammability)				
IT	10043-35-3, Boric acid, uses and miscellaneous 27522-09-4, Ammonium borate RL: USES (Uses) (electrolytes contg. silicon-contg. poly(vinyl alc.), capacitor, for nonflammability)				
IT	56-81-5, Glycerin, uses and miscellaneous 107-21-1, Ethylene glycol, uses and miscellaneous RL: USES (Uses) (electrolytes , capacitor, silicon-contg. poly(vinyl alc.) and				

boric acid in, for nonflammability)

- L77 ANSWER 43 OF 58 CAPLUS COPYRIGHT 2003 ACS
 AN 1990:86717 CAPLUS
 DN 112:86717
 TI **Thermodynamic** changes in ion and solvent populations
 accompanying redox switching in polyvinylferrocene films
 AU Hillman, A. Robert; Loveday, David C.; Bruckenstein, Stanley
 CS Sch. Chem., Univ. Bristol, Bristol, BS8 1TS, UK
 SO Journal of Electroanalytical Chemistry and Interfacial Electrochemistry
 (1989), 274(1-2), 157-66
 CODEN: JEIEBC; ISSN: 0022-0728
 DT Journal
 LA English
 CC 72-2 (Electrochemistry)
 Section cross-reference(s): 36, 69
 AB The electrochem. quartz crystal microbalance (EQCM) was used to study
 redox-induced changes in equil. ion and solvent populations of
 polyvinylferrocene (PVF) films. The effects of soln. concn. and the
 identities of the cation (co-ion) and anion (counter ion) were
 investigated in aq. Na and perchlorate salt solns. The redox behavior of
 these PVF films depends on the bathing **electrolyte** compn. At
 low concns., the film is permselective; only counter ions (and solvent)
 participate during film oxidn. At higher concns., permselectivity fails,
 and oxidn. is accompanied by the ingress of salt (both co- and counter
 ions). Potentiometric data agree with this model. Regardless of the
 concn. and the **electrolyte** studied, some solvent transfer occurs
 as a consequence of solvent activity coeff. changes that accompany redox
 switching.
 ST quartz crystal micro balance polyvinylferrocene; ion solvent population
 polyvinylferrocene; redox reaction electrochem cation population;
 thermodyn permeation polymer film
 IT **Thermodynamics**
 (in ion and solvent mass transfer through polyvinylferrocene film
 during redox switching)
 IT Permeability and Permeation
 (of cations, through polyvinylferrocene films during redox switching)
 IT Oxidation, electrochemical
 (of polyvinylferrocene film, ion and solvent population changes in)
 IT Cations
 (transport of, through polyvinylferrocene films, during electrochem.
 switching)
 IT Redox reaction
 (electrochem., of polyvinylferrocene film, ion and solvent population
 changes in)
 IT Balances
 (micro-, quartz crystal, in ion and solvent permeation study through
 polyvinylferrocene film during electrochem. switching)
 IT 657-84-1 1923-70-2, Tetrabutylammonium perchlorate 2537-36-2,
 Tetramethylammonium perchlorate 2567-83-1, Tetraethylammonium
 perchlorate 7601-89-0, Sodium perchlorate 7631-99-4, Sodium nitrate,
 uses and miscellaneous 7790-98-9, Ammonium perchlorate

21324-39-0, Sodium hexafluorophosphate

RL: PRP (Properties)

(electrochem. redox switching of polyvinylferrocene in dichloromethane contg.)

IT 14808-60-7, Quartz, uses and miscellaneous

RL: USES (Uses)

(microbalances, polyvinylferrocene redox switching in relation to)

IT 7440-23-5, Sodium, properties

RL: PRP (Properties)

(permeation of, in redox switching in polyvinylferrocene film)

IT 51-92-3, Tetramethylammonium ion 66-40-0 14798-03-9, Ammonium ion, properties

RL: PRP (Properties)

(permeation of, in redox switching of polyvinylferrocene films)

IT 7440-57-5, Gold, uses and miscellaneous

RL: USES (Uses)

(quartz with deposited, in redox switching of polyvinylferrocene film)

IT 34801-99-5, Polyvinylferrocene

RL: RCT (Reactant); RACT (Reactant or reagent)

(redox reactions of, electrochem., **thermodn.** changes in ion and solvent population in)

IT 75-09-2, Dichloromethane, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(redox switching of polyvinylferrocene in soln. of, on quartz with deposited silver)

L77 ANSWER 44 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1989:234687 CAPLUS

DN 110:234687

TI Cathodes for nonaqueous batteries

IN Tajima, Yoshimitsu; Mori, Motoo

PA Sharp Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM H01M004-48

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01054670	A2	19890302	JP 1987-212124	19870825
PRAI	JP 1987-212124		19870825		

AB CrO₃ is partly decompd. in an O-contg. atm., dispersed in a soln., the soln. is evapd. to dry, and the solid is decompd. by heating again to obtain the cathode-active mass. Thus, 100 parts Cr₃O₈, obtained by decompn. of CrO₃ at 200-270.degree., and 1 part (NH₄)₂SO₄ were dispersed in water contg. a surfactant by application of ultrasonic wave. The mixt. was evapd. and decompd. at 265-280.degree. to obtain an active mass. A Li secondary battery using 100:10:5 mixt. of this mass, acetylene black, and **fluoropolymer** binder as cathode and a 1M LiClO₄/propylene carbonate **electrolyte** had higher capacity and longer

charge-discharge cycle life than a control battery.

ST cathode chromium oxide battery; ammonium sulfate chromium oxide cathode
IT Cathodes

(battery, chromium oxide for, by **thermal** decompn. of chromium trioxide, ammonium sulfate in manuf. of)

IT 11118-57-3P, Chromium oxide (unspecified)

RL: PREP (Preparation)

(cathodes, by **thermal** decompn. of chromium trioxide, ammonium sulfate in manuf. of, for batteries)

IT 1333-82-0, Chromium trioxide

RL: RCT (Reactant); RACT (Reactant or reagent)

(heat decompn. of, ammonium sulfate in, in manuf. of chromium oxide for battery cathodes)

IT 35089-90-8

RL: USES (Uses)

(in manuf. of chromium oxide from **thermal** decompn. of trioxide, for battery cathodes)

L77 ANSWER 45 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1989:40468 CAPLUS

DN 110:40468

TI Acrylic dispersions for impregnation of textiles

IN Kucera, Frantisek; Prudilova, Marcela; Kuhnelt, Vlastislav; Formanek, Leopold

PA Czech.

SO Czech., 3 pp.

CODEN: CZXXA9

DT Patent

LA Czech

IC ICM A62B007-10

ICS C09D005-10

CC 40-10 (Textiles and Fibers)

Section cross-reference(s): 63

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CS 249307	B1	19870312	CS 1982-10016	19821230
CS 1982-10016		19821230		

PI CS 249307 B1 19870312 CS 1982-10016 19821230

PRAI CS 1982-10016 19821230

AB Aq. dispersions for impregnation of textiles in the manuf. of **thermal** insulators, bandages, and respirators contain an acrylic binder 11-19, powd. Al and(or) Mg 10-14, an acrylate **electrolyte** 4-9, and sulfonated Bu oleate (I) 0.1-0.7%. A typical acrylic dispersion contained powd. Al 11, an acrylate **electrolyte** (e.g., acrylic acid, Na acrylate, and NH4 acrylate) 8, sulfonated I 0.1, an acrylic binder 16, and water 65%. A typical acrylic binder consists of styrene 20-29, Bu acrylate 65-74, isobutoxy methacrylamide 1-5, and methacrylic acid 1-5%.

ST acrylic dispersion impregnate textile; sulfonated butyl oleate dispersant; sodium acrylate dispersant metal powder; ammonium acrylate dispersant metal powder; aluminum powder impregnated textile; magnesium powder impregnated textile; **thermal** insulator metal impregnated textile; bandage metal powder impregnated textile; respiratory metal

- powder impregnated textile
- IT Dispersing agents
(acrylic compds. and sulfonated Bu oleate, for metal powder and acrylic polymers in water, in manuf. of impregnates for textiles)
- IT Textiles
(aluminum (magnesium) powder-acrylic-impregnated, for **thermal** insulators and bandages and respirators)
- IT Synthetic fibers, polymeric
RL: USES (Uses)
(fabrics, aluminum(magnesium) powder-acrylic-polymer impregnated, for **thermal** insulators and bandages and respirators)
- IT Respirators
Thermal insulators
(textiles impregnated by acrylic polymers and aluminum or magnesium powder for)
- IT Medical goods
(bandages, textiles impregnated by acrylic polymers and aluminum or magnesium powder for)
- IT 40893-49-0, Acrylonitrile-butyl acrylate-methacrylamide copolymer
111256-15-6 111256-16-7 118478-33-4
118478-34-5
RL: USES (Uses)
(binders, for metal powder-impregnated textiles)
- IT 79-10-7, 2-Propenoic acid, uses and miscellaneous 142-77-8D, Butyl oleate, sulfonated 7446-81-3, Sodium acrylate 10604-69-0, Ammonium acrylate
RL: USES (Uses)
(dispersants, for metal powders and acrylic polymers in water, in manuf. of impregnates for textiles)
- IT 7429-90-5, Aluminum, uses and miscellaneous 7439-95-4, Magnesium, uses and miscellaneous
RL: USES (Uses)
(powd., textiles impregnated by, for **thermal** insulators and bandages and respirators)

L77 ANSWER 46 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1988:530776 CAPLUS

DN 109:130776

TI **Thermally** bondable nonwoven interlinings with low stiffness and their manufacture

IN Takigawa, Hisayuki

PA Kanai, Hiroyuki, Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM D06M017-00

ICS A41D027-06

CC 40-10 (Textiles and Fibers)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 63126977 A2 19880530 JP 1986-268340 19861111
 JP 08019622 B4 19960228
 PRAI JP 1986-268340 19861111

AB The title fabrics are prepd. by first impregnating nonwoven webs with water-sol. polymers (A) insolubilized by metal ions, then partially coating by metal ions, then partially coating the webs with aq. pastes contg. metal ion-releasable **electrolytes** and **thermally** bonding polymer particles, drying the fabrics to insolubilize A on coated portions, and washing the webs for removal of A from the noncoated portions. Thus, a nylon 6 web impregnated with an aq. compn. contg. 10% (solids) poly(acrylic acid) NH₄ salt (I) to with pickup 200%, screen printed with an aq. compn. (solids 35%) contg. polyamide powder 100, plasticizer 20, dispersing agent 20, thickener 2, and CaCO₃ 2 parts, and dried. The fabric was then washed with hot water to dissolve I from the nonprinted portion, softened with a compn. contg. 100 parts aminosiloxane and 1 part fluorescent dye, and dried to give an interlining fabric. The interlining and a rayon velvet were together pressed at 155.degree. to give a bonded fabric with layer bonding strength 500 g/5 cm and bending stiffness 0.018 g/cm²/cm (in warp direction) and 0.018 g/cm²/cm (in filling direction), vs. 50, 0.030, and 0.030, resp; using no I.

ST softness **thermally** bondable nonwoven interlining; nylon nonwoven interlining softness; polyamide nonwoven interlining softness; acrylic polymer impregnated interlining softness

IT Polyamides, uses and miscellaneous

RL: USES (Uses)

(adhesives, on nonwoven webs, for **thermally** bondable interlinings)

IT **Electrolytes**

(nonwoven fabrics impregnated with, for manuf. of **thermally** bondable interlinings with low stiffness)

IT Polyamide fibers, uses and miscellaneous

RL: USES (Uses)

(nonwoven, partially coated with insolubilized polymers and adhesives, for **thermally** bondable interlinings with improved softness)

IT Wearing apparel

(interlinings, nonwoven webs partially coated with insolubilized polymers and adhesives as, **thermally** bondable, with low stiffness)

IT Textiles

(nonwoven, partially coated with insolubilized polymers and adhesives, for **thermally** bondable interlinings with low stiffness)

IT 9003-03-6, Poly(acrylic acid) ammonium salt

RL: USES (Uses)

(nylon nonwoven webs impregnated by, for manuf. of **thermally** bondable interlinings)

IT 471-34-1, Calcium carbonate, uses and miscellaneous

RL: USES (Uses)

(polyamide adhesive coatings on nonwoven webs contg., for **thermally** bondable interlinings).

L77 ANSWER 47 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1988:494732 CAPLUS

DN 109:94732
 TI **Thermally** bondable nonwoven interlinings with low stiffness and their manufacture
 IN Takigawa, Hisayuki
 PA Kanai, Hiroyuki, Japan
 SO Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 IC ICM D06M017-00
 ICS A41D027-06; C09J007-02
 CC 40-10 (Textiles and Fibers)
 FAN. CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 63126978	A2	19880530	JP 1986-274834	19861117
	JP 08019623	B4	19960228		
PRAI	JP 1986-274834		19861117		

AB The title fabrics are prepd. by first impregnating nonwoven webs with aq. soln. contg. metal ion-releasable **electrolytes**, then partially coating the fabrics with aq. pastes contg. acrylic polymers (A) insolubilized by metal ions and **thermally** bonding polymer particles, and drying the webs to cause insolubilization of A. Thus, a nylon 6 nonwoven web was prepd., embossed, impregnated with aq. 2% CaCO₃ to solids content 2 g/m², screen printed with an aq. compn. (solids 35%) contg. polyamide powder 100, plasticizer 20, dispersing agent 20, thickener 2, and poly(acrylic acid) ammonium salt 10 parts, and dried. This fabric and a rayon velvet were pressed together at 155.degree. to give a laminate with layer bonding strength 500 g/5 cm and bending stiffness 0.013 g-cm²/cm (in warp direction) and 0.012 g-cm²/cm (in filling direction), vs. 50, 0.030, and 0.030, resp., using no CaCO₃.
 ST softness **thermally** bondable nonwoven; nylon nonwoven interlining softness; polyamide nonwoven interlining softness; acrylic polymer impregnated interlining softness
 IT Polyamides, uses and miscellaneous
 RL: USES (Uses)
 (adhesives, on nonwoven webs, for **thermally** bondable interlinings)
 IT **Electrolytes**
 (nonwoven fabrics impregnated with, for manuf. of **thermally** bondable interlinings with low stiffness)
 IT Polyamide fibers, uses and miscellaneous
 RL: USES (Uses)
 (nonwoven, partially coated with insolubilized acrylic polymers and adhesives, for **thermally** bondable interlinings with improved softness)
 IT Acrylic polymers, uses and miscellaneous
 RL: USES (Uses)
 (water-sol., nylon nonwoven webs impregnated by, for manuf. of **thermally** bondable interlinings)
 IT Wearing apparel
 (interlinings, nonwoven webs partially coated with insolubilized

- polymers and adhesives as, **thermally** bondable, with low stiffness)
- IT Textiles
(nonwoven, partially coated with insolubilized acrylic polymers and adhesives, for **thermally** bondable interlinings with improved softness)
- IT 471-34-1, Calcium carbonate, uses and miscellaneous
RL: USES (Uses)
(nylon fabrics impregnated with, for manuf. of **thermally** bondable interlinings with low stiffness)
- IT 9003-03-6, Poly(acrylic acid) ammonium salt
RL: USES (Uses)
(nylon nonwoven webs impregnated by, for manuf. of **thermally** bondable interlinings)
- L77 ANSWER 48 OF 58 CAPLUS COPYRIGHT 2003 ACS
AN 1987:203968 CAPLUS
DN 106:203968
TI Chemical and mechanical properties of redox polymer-modified electrodes. Part II. Redox **thermodynamics** of plasma-polymerized vinylferrocene electrodes
AU Dautartas, M. F.; Bowden, E. F.; Evans, J. F.
CS Dep. Chem., Univ. Minnesota, Minneapolis, MN, 55455, USA
SO Journal of Electroanalytical Chemistry and Interfacial Electrochemistry (1987), 219(1-2), 71-89
CODEN: JEIEBC; ISSN: 0022-0728
DT Journal
LA English
CC 72-2 (Electrochemistry)
Section cross-reference(s): 35, 36
AB The **thermodn.** of thin films (<200 nm) of plasma-polymd. vinylferrocene (PPvF) deposited on various substrates were examd. in aq. and nonaq. **electrolytes** by controlled potential coulometry. The Nernst plots (E vs. log [cFe⁺/cFe⁰]) of these data gives slopes in the range of 120-150 mV/decade. SEM of thicker films (>400 nm) shows that significant phys. damage can occur during electrolysis. These and related observations suggest that the super-Nernstian behavior may be related to stress induced by the forced incorporation of the anion of the supporting **electrolyte**, as is required to maintain electroneutrality within the films. A mech./electrochem. model is employed to explain the origin of the excess free energy required to convert ferrocene sites to ferrocenium sites within the PPVF films.
ST vinylferrocene plasma polymd electrode; redox **thermodn** polyvinylferrocene; potential elec plasma polymd vinylferrocene; ferrocene vinyl plasma polymd electrode
IT Oxidation, electrochemical
(of plasma-polymd. vinylferrocene)
IT Electric potential
(of plasma-polymd. vinylferrocene, in various solvent-supporting **electrolyte** systems)
IT Free energy
Thermodynamics

- (of redox reaction of plasma-polymd. vinylferrocene)
- IT Solvent effect
 - (on elec. potential of plasma-polymd. vinylferrocene)
- IT Electrodes
 - (plasma-polymd. vinylferrocene)
- IT **Electrolytes**
 - (supporting, elec. potential of plasma-polymd. vinylferrocene in various solvents contg.)
- IT Redox reaction
 - (electrochem., of plasma-polymd. vinylferrocene, **thermodn.** in relation to)
- IT 733-44-8, Tetraethylammonium-p-toluenesulfonate 3109-63-5,
Tetrabutylammonium hexafluorophosphate(1-)
RL: PRP (Properties)
 - (elec. potential of hydroxymethylferrocene or plasma-polymd. vinylferrocene in acetonitrile-contg.)
- IT 7447-40-7, Potassium chloride, uses and miscellaneous 7757-79-1,
Potassium nitrate, uses and miscellaneous
RL: USES (Uses)
 - (elec. potential of hydroxymethylferrocene or plasma-polymd. vinylferrocene in aq.)
- IT 7789-23-3, Potassium fluoride 7791-03-9, Lithium perchlorate
RL: PRP (Properties)
 - (elec. potential of hydroxymethylferrocene or plasma-polymd. vinylferrocene in aq.)
- IT 1923-70-2, Tetrabutylammonium perchlorate
RL: PRP (Properties)
 - (elec. potential of plasma-polymd. vinylferrocene and hydroxymethylferrocene in acetonitrile or dichloromethane contg.)
- IT 1273-86-5, Hydroxymethylferrocene
RL: PRP (Properties)
 - (elec. potential of, in various solvent supporting **electrolytes**, comparison with plasma-polymd. vinylferrocene)
- IT 7440-06-4, Platinum, uses and miscellaneous
RL: USES (Uses)
 - (electrode, electrochem. oxidn. of plasma-polymd. vinylferrocene films on, in various solvent-supporting **electrolyte** systems, **thermodn.** in relation to)
- IT 7440-44-0, Carbon, uses and miscellaneous
RL: USES (Uses)
 - (electrode, glassy, electrochem. oxidn. of plasma-polymd. vinylferrocene films on, in various solvent-supporting **electrolyte** system, **thermodn.** in relation to)
- IT 7782-42-5, Graphite, uses and miscellaneous
RL: USES (Uses)
 - (electrode, pyrolytic, electrochem. oxidn. of plasma-polymd. vinylferrocene films on, in various solvent-supporting **electrolyte** systems, **thermodn.** in relation to)
- IT 34801-99-5, Polyvinylferrocene
RL: PRP (Properties)
 - (electrodes, redox **thermodn.** on plasma-polymd.)
- IT 1499-10-1, 9,10-Diphenylanthracene

RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of, electrochem., on platinum and platinum coated with
plasma-polymd. vinylferrocene)

L77 ANSWER 49 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1987:19185 CAPLUS

DN 106:19185

TI Heat-resistant transparent **thermoplastic** resins, their
preparation, and optical apparatus made from them

IN Nakai, Yoshio; Sato, Fumio

PA Mitsubishi Rayon Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C08F220-14

ICS C08F002-18

ICI C08F220-14, C08F222-40, C08F212-06

CC 35-4 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 38, 40

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61171708	A2	19860802	JP 1984-262868	19841214
	JP 05082405	B4	19931118		
PRAI	JP 1984-262868		19841214		

AB Copolymers of Me methacrylate (I) 40-98, N-arylmaleimides 1-34, and arom. vinyl compds. 1-30% with intrinsic viscosity ([.eta.]: at 25.degree. in CHCl₃) 0.3-1.0 dL/g and contg. .ltoreq.1.5% residual monomers have good transparency and heat resistance. They are prepd. by suspension polymn. in aq. **electrolytes** using water-sol. polymeric dispersants. Thus, an aq. mixt. of I 90, N-(2-chlorophenyl)maleimide (II) 7, .alpha.-methylstyrene (III) 3, n-octylmercaptan 0.25, AIBN 0.1, 30:70 I-K methacrylate copolymer 0.01, poly(Na 2-sulfoethyl methacrylate) 0.01, and Na₂SO₄ 0.5 part was heated at 80.degree. for 3 h to give colorless beads (av. diam. 0.29 mm) of a polymer with [.eta.] 0.50 and melt flow rate (at 230.degree., 10 kg) 6.1 g/10 min, contg. residual I 0.28, II <0.1, and III <0.1%. Molded lenses and test plates showed Vicat softening point 132.degree., total light transmittance (2-mm plate) 92.4%, haze 1.1%, tensile strength 776 kg/cm², elongation 4.7%, Izod impact strength 1.7 kg-cm/cm, and nD 1.502; compared with 118.degree., 92.5%, 1.1%, 760 kg/cm², 8.2%, 1.7 kg-cm/cm, and 1.492, resp., for PMMA.

ST methyl methacrylate arylmaleimide styrene copolymer; maleimide aryl styrene methacrylate copolymer; chlorophenylmaleimide copolymer heat resistance lens; sulfoethyl methacrylate copolymer dispersant; sodium sulfate dispersant suspension polymn; transparent heat resistant acrylic copolymer; suspension polymn acrylic polyelectrolyte dispersant; sulfonate contg acrylic polyelectrolyte dispersant; optical app acrylic copolymer; lens arylmaleimide styrene modified PMMA; fiber optical acrylic copolymer

IT Lenses

(Me methacrylate-arylmaleimide-styrene copolymers for, with low residual monomer content and good melt fluidity, heat- and

- weather-resistant)
- IT Transparent materials
Acrylic polymers, uses and miscellaneous
RL: USES (Uses)
(Me methacrylate-arylmaleimide-styrene copolymers, with low residual monomer content, heat- and weather-resistant, for optical app.)
- IT Heat-resistant materials
(Me methacrylate-arylmaleimide-styrene copolymers, with low residual monomer content, transparent, for optical app.)
- IT Discoloration prevention
(of Me methacrylate-arylmaleimide-styrene copolymer optical materials, by suspension polymn. for low residual monomer content)
- IT Acrylic polymers, preparation
RL: PREP (Preparation)
(prepn. of, by suspension polymn. in aq. **electrolytes** with anionic polymer dispersants, for low residual monomer content)
- IT Dispersing agents
(water-sol. sulfo-contg. acrylic polymers, for suspension polymn. in aq. **electrolytes** of Me methacrylate with arylmaleimides and styrenes)
- IT Acrylic polymers, uses and miscellaneous
RL: PREP (Preparation)
(sulfo-contg., dispersants, for prepn. of Me methacrylate-arylmaleimide-styrene copolymers by suspension polymn.)
- IT Polymerization
(suspension, of Me methacrylate with arylmaleimides and styrenes, in aq. **electrolytes** with anionic polymer dispersants, for low residual monomer content)
- IT 27660-38-4 52255-83-1 105288-00-4
RL: USES (Uses)
(dispersants, for prepn. of Me methacrylate-arylmaleimide-styrene copolymers by suspension polymn.)
- IT 25155-93-5 105270-95-9
RL: USES (Uses)
(dispersants, with sulfonated acrylic polyelectrolytes, for prepn. of Me methacrylate-arylmaleimide-styrene copolymers by suspension polymn.)
- IT 38744-43-3P 81598-70-1P 104068-09-9P
105155-35-9P 105876-79-7P
RL: PREP (Preparation)
(prepn. of, by suspension polymn. with anionic polymer dispersants, transparent, heat- and weather-resistant, for optical app.)
- IT 7757-82-6, Sodium sulfate, uses and miscellaneous
RL: USES (Uses)
(suspension polymn. in aq., with anionic polymer dispersants, Me methacrylate-arylmaleimide-styrene copolymers manufd. by)

L77 ANSWER 50 OF 58 CAPLUS COPYRIGHT 2003 ACS
AN 1985:69329 CAPLUS
DN 102:69329
TI Cathode for button-type air battery
PA Matsushita Electric Industrial Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC H01M004-88

CC 72-3 (Electrochemistry)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 59154764	A2	19840903	JP 1983-27361	19830221
PRAI	JP 1983-27361		19830221		

AB The prepn. of a cathode for a button-type air battery having a Zn anode active material and aq. alk. **electrolyte** involves adding a conductive C such as acetylene black and PTFE to a MnO₂-adhered activated C to form a paste, and adhering the paste to a metal net such as a Ni screen. The MnO₂-adhered activated C is prepd. by adding a high-concn. NH₃ water to a Mn(NO₃)₂ soln. to form a slurry consisting of Mn(NO₃)₂, Mn(OH)₂, NH₄NO₃, and H₂O, placing activated C in the slurry, and carrying out **thermal** decompn.

ST manganese oxide cathode air battery; zinc manganese oxide battery

IT Carbon black, uses and miscellaneous
 RL: PRP (Properties)
 (cathode from manganese dioxide-coated activated carbon contg., for air battery)

IT Batteries, primary
 (zinc-manganese dioxide)

IT Cathodes
 (battery, air, manganese dioxide-coated activated carbon)

IT 7440-66-6, uses and miscellaneous
 RL: USES (Uses)
 (anode, in button-type air battery with manganese dioxide-coated carbon cathode)

IT 1313-13-9P, uses and miscellaneous
 RL: PREP (Preparation); USES (Uses)
 (cathode from activated carbon coated with, prepd. by **thermal** decompn., for air battery)

IT 7440-02-0, uses and miscellaneous
 RL: USES (Uses)
 (cathode from manganese dioxide with screen of, for air battery)

IT 9002-84-0
 RL: PRP (Properties)
 (cathode from manganese dioxide-coated activated carbon contg., for air battery)

IT 7440-44-0, uses and miscellaneous
 RL: USES (Uses)
 (cathode, manganese dioxide-coated, for air battery)

IT 6484-52-2, uses and miscellaneous
 RL: PRP (Properties)
 (in manganese dioxide-coated activated carbon prepn. by **thermal** decompn. for air battery cathode)

L77 ANSWER 51 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1981:23875 CAPLUS

KOROMA EIC1700

DN 94:23875
 TI Aluminum solid **electrolyte** capacitor
 IN Armbruester, Wilhelm; Bechtler, Albert; Weber, Willi
 PA Siemens A.-G., Fed. Rep. Ger.
 SO Ger. Offen., 20 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 IC H01G009-02
 CC 76-3 (Electric Phenomena)
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2914784	A1	19801030	DE 1979-2914784	19790411
PRAI	DE 1979-2914784		19790411		

AB A solid-**electrolyte** Al capacitor has a **thermally** stable **electrolyte** consisting of an org. semiconductor based on a donor-acceptor complex embedded in a matrix, in which the acceptor is TCNQ and the donor is bipyridine and/or dipyridylethylene and/or their derivs. The N atoms in the donor are preferably in the para position, and the matrix is preferably polyurethane and/or poly(vinyl acetate).

ST solid **electrolyte** aluminum capacitor; urethane polymer matrix capacitor **electrolyte**; TCNQ complex capacitor **electrolyte**; bipyridine TCNQ complex capacitor **electrolyte**; ethylene dipyridyl TCNQ capacitor **electrolyte**; pyridylethylene TCNQ capacitor **electrolyte**; polyurethane matrix capacitor **electrolyte**; vinyl acetate polymer capacitor **electrolyte**

IT Urethane polymers, uses and miscellaneous
 RL: PRP (Properties)
 (elec. capacitor **electrolytes** from TCNQ-bipyridine deriv. complexes in matrix of)

IT Vinyl acetal polymers
 RL: PRP (Properties)
 (butyrals, elec. capacitor **electrolytes** from TCNQ-bipyridine deriv. complexes in matrix of)

IT Electric capacitors
 (electrolytic, from aluminum with TCNQ-bipyridine deriv. complex **electrolytes**)

IT 55696-04-3 61347-18-0 76092-26-7 76092-27-8
 RL: USES (Uses)
 (capacitor **electrolyte** from, in polymer matrix)

IT 9003-20-7 9003-27-4
 RL: PRP (Properties)
 (elec. capacitor **electrolytes** from TCNQ-bipyridine deriv. complexes in matrix of)

L77 ANSWER 52 OF 58 CAPLUS COPYRIGHT 2003 ACS
 AN 1979:178191 CAPLUS
 DN 90:178191
 TI Impermeable microcapsules
 IN Iwasaki, Hiroshi; Okamoto, Shigeo; Kondo, Mitsuru
 PA Kanzaki Paper Mfg. Co., Ltd., Japan

SO Ger. Offen., 19 pp.

CODEN: GWXXBX

DT Patent

LA German

IC B01J013-02

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2819535	A1	19781109	DE 1978-2819535	19780503
	JP 53137079	A2	19781130	JP 1977-51488	19770504
	JP 60017573	B4	19850504		
	US 4228031	A	19801014	US 1978-902882	19780504
PRAI	JP 1977-51488		19770504		

AB To minimize the permeability of microcapsules, as used in pressure- or heat-sensitive copy papers, for their hydrophobic (leuco dye soln.) enclosures they are dehydrated in their aq. dispersion by addn. of 5-100% (of the capsule wall material) of alkali metal or NH₄ salts of org. or inorg. acids. The capsule walls are a coacervate of a H₂O-sol. cationic polyamide-polyamine-epoxy resin with a natural or synthetic anionic colloid, rendered water-insol. by heating. Addn. of the electrolyte deforms the dispersed spherules. Thus, an org. leuco dye soln. was emulsified as 4 .mu. droplets in a 10% aq. soln. of a com. resin 200 parts and dropped into a 5% aq. CM-cellulose soln. 400 parts at 10.degree.. After addn. of H₂O 200 parts to the dispersion of pH 5.5, the capsule walls were hardened for 3 h at 45.degree. before adding Na polystyrenesulfonate 20 parts as a dehydrating agent. For coating a 40 g/m² paper support at 4 g/m² (dry) the dispersion was mixed with a cellulose powder 30 and 10% aq. oxidized starch 200 parts.

ST pressure copying paper impermeable microcapsule; thermog paper impermeable microcapsule

IT Epoxy resins, uses and miscellaneous

RL: USES (Uses)

(cationic, for microencapsulation of leuco dyes for pressure-sensitive copying papers)

IT Dehydration, chemical

(of microcapsules contg. leuco dyes in prepn. of pressure-sensitive copying papers, alk. metal salts for)

IT Thermography

(papers for, coating compns. contg. impermeable microcapsules for)

IT Encapsulation

(micro-, of leuco dyes with cationic resin, anionic colloid and alkali metal salt dehydrating agent for pressure-sensitive copying papers)

IT Amines, polymers

(polyamide-poly-, epoxidized, cationic, for microencapsulation of leuco dyes for pressure-sensitive copying papers)

IT Polyureas

(polyamide-polyamine-, epoxidized, cationic, for microencapsulation of leuco dyes for pressure-sensitive copying papers)

IT Polyamides, uses and miscellaneous

RL: USES (Uses)

(polyamine-, epoxidized, cationic, for microencapsulation of leuco dyes)

- for pressure-sensitive copying papers)
- IT Copying paper
(pressure-sensitive, coating compns. contg. impermeable microcapsules for)
- IT 50-00-0D, reaction products with sodium naphthalenesulfonate 515-42-4
1321-69-3D, reaction products with formaldehyde 9005-22-5
25120-73-4 25704-18-1 26099-07-0
26300-19-6 27940-34-7 31942-64-0
RL: USES (Uses)
(dehydrating agent, for microencapsulation of leuco dyes by cationic polyamide-polyamine-epoxy resin and anionic colloid for pressure-sensitive copying papers)
- IT 9004-32-4 55840-74-9 69771-84-2
RL: USES (Uses)
(for microencapsulation of leuco dyes in prepn. of pressure-sensitive copying papers)
- L77 ANSWER 53 OF 58 CAPLUS COPYRIGHT 2003 ACS
AN 1978:193196 CAPLUS
DN 88:193196
TI Effect of **electrolytes** on the turbidity temperature of aqueous nonionic surfactant solutions and **thermal** coagulation of polystyrene latex
AU Volkov, V. A.; Komova, L. F.
CS Novomoskovsk. Filial, Mosk. Khim.-Tekhnol. Inst., Novomoskovsk, USSR
SO Kolloidnyi Zhurnal (1978), 40(2), 337-41
CODEN: KOZHAG; ISSN: 0023-2912
DT Journal
LA Russian
CC 46-3 (Surface Active Agents and Detergents)
Section cross-reference(s): 36
AB Al(NO₃)₃, Co(NO₃)₂, Ca(NO₃)₂, Mg(NO₃)₂, Cr(NO₃)₃, and LiNO₃ solns. increase the turbidity temp. of aq. OP-7 [11100-29-1] and OP-10 [9041-29-6] solns., while NH₄H₂PO₄, (NH₄)₂HPO₄, (NH₄)₃PO₄, and ammonium polyphosphate solns. decrease the instantaneous coagulation temp. of polystyrene [9003-53-6] latex stabilized with OP-10. KNO₃, NaNO₃, NH₄NO₃, and ammonium phosphates have as salting out effect on the aq. OP-7 and OP-10 solns. Effect of the **electrolytes** on the turbidity temp. of the surfactants decreased with increasing degree of oxyethylation. Pseudopolyelectrolytic stabilization of anionic surfactant solns. by certain cations is proposed.
- ST **electrolyte** turbidity temp surfactant; polystyrene latex coagulation **electrolyte**; nitrate turbidity temp surfactant; phosphate ammonium coagulation polystyrene; oxyethylation surfactants turbidity **electrolyte**; salting out surfactant **electrolyte**
- IT **Electrolytes**
(turbidity temp. of aq. nonionic surfactants in presence of)
- IT Nitrates, uses and miscellaneous
RL: USES (Uses)
(turbidity temp. of nonionic surfactants in presence of)
- IT Surfactants

- (nonionic, turbidity temp. of, effect of divalent and trivalent metal nitrates on)
- IT 9003-53-6
RL: USES (Uses)
(coagulation temp. of latex of, effect of ammonium phosphate on)
- IT 7722-76-1 7783-28-0 10361-65-6
RL: USES (Uses)
(coagulation temp. of stabilized polystyrene latex in presence of)
- IT 9041-29-6 11100-29-1
RL: USES (Uses)
(turbidity temp. of aq., effect of divalent and trivalent metal nitrates on)
- IT 6484-52-2, uses and miscellaneous 7631-99-4, uses and miscellaneous 7757-79-1, uses and miscellaneous 7790-69-4 10124-37-5 10141-05-6 10377-60-3 13473-90-0 13548-38-4
RL: USES (Uses)
(turbidity temp. of nonionic surfactants in presence of)
- L77 ANSWER 54 OF 58 CAPLUS COPYRIGHT 2003 ACS
AN 1974:491856 CAPLUS
DN 81:91856
TI Equilibriums and reaction rates of nicotinamide-adenine dinucleotide and its related compounds with cyanide ion in the presence of polyelectrolytes
AU Okubo, Tsuneo; Ise, Norio
CS Dep. Polym. Chem., Kyoto Univ., Kyoto, Japan
SO Journal of Biological Chemistry (1974), 249(11), 3563-7
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
CC 33-7 (Carbohydrates)
Section cross-reference(s): 22
AB The rate and equil. consts. for addn. of cyanide ions to .beta.-nicotinamide-adenine dinucleotide (.beta.NAD+), .alpha.NAD+ and NMN were studied in the presence and absence of polyelectrolytes and surfactants. The polymers examd. were poly(4-vinyl-N-butylpyridinium bromide) (I), poly(4-vinyl-N-benzylpyridinium chloride) (II), copolymer (III) of 4-vinyl-N-benzylpyridinium chloride and 4-vinyl-N-n-cetylpyridinium bromide, copolymer (IV) of diethyldiallyl-ammonium chloride and sulfur dioxide, DNA, poly(A), poly(I), poly(C), and poly(U). The surfactant was cetyltrimethyl-ammonium bromide. All of the **electrolytes** investigated, except anionic polyelectrolytes, increased the second order rate const. of the forward process of the cyanide addn. reaction in the order, .alpha.NAD+ > .beta.NAD+ > NMN+. The increase was in the order, KCl < CaCl2 < IV < I < II < III. The backward reaction wa decelerated by the polyelectrolytes. The **thermodn.** quantities of the cyanide addn. reaction were derived.
ST NAD cyanide polyelectrolyte kinetics; NMN cyanide polyelectrolyte kinetics; cyanide addn **thermodn** NAD; kinetics NAD cyanide polyelectrolyte
IT Polyelectrolytes
(effect of, on cyanide addn. with NAD and NMN)
IT Enthalpy and Enthalpy function

Entropy

Free energy

(of cyanide addn. with NAD, effect of electrolytes and surfactants on)

IT Addition reaction

Kinetics of addition reaction

(of cyanide with NAD and NMN, effect of polyelectrolytes and surfactants on)

IT 53-84-9 1094-61-7 7298-93-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(cyanide addn. reaction of, effect of polyelectrolytes and surfactants on)

IT 57-09-0 24937-83-5 25703-28-0 27416-86-0 27577-32-8

30109-97-8 30811-80-4 30918-54-8 40780-43-6

RL: PRP (Properties)

(effect of, on cyanide addn. of NAD and NMN)

L77 ANSWER 55 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1968:497238 CAPLUS

DN 69:97238

TI Electrochemical polymerization of vinylic monomers. I. Anionic initiation of acrylonitrile by means of persulfate in dimethylsulfoxide

AU Ungureanu, C.; Ungureanu, D. A.; Simionescu, Cr.

CS Macromol. Chem. Inst. "P. Poni", Iasi, Rom.

SO Revue Roumaine de Chimie (1968), 13(7), 913-20

CODEN: RRCHAX; ISSN: 0035-3930

DT Journal

LA English

CC 35 (Synthetic High Polymers)

GI For diagram(s), see printed CA Issue.

AB The electrochem. polymn. of acrylonitrile (I) in Me₂SO in the presence of alk. persulfates (II) as electrolytes (IIa - K, IIb - Na, IIc - NH₄), was studied in a U-shaped cell with 50-cc. compartments sepd. by a sintered-glass plate to det. the electrode which favors the polymn. and in a 25-cc. cylindrical cell for current kinetic detns. In both cells, the 2 electrodes were 1.2 cm.² Pt plate. II solns. of known concn. in Me₂SO (twice distd. at 3 mm., collecting the middle fraction each time) were dild. with Me₂SO to the concn. required, and were then mixed with I (twice distd. at normal pressure) in the cell, stirring continuously, and **thermostating**; the current intensity was kept const. throughout the expt. and the polymer was pptd. with MeOH. The polymer is formed exclusively in the cathode space; a very small amt. of polymer was pptd. with MeOH from the anode compartment after prolonged electrolysis. This is attributed to diffusion of the polymer from the cathode compartment through the sintered glass. In the absence of II, the electrochem. polymn. of I in Me₂SO was minimal, the conversion being noticeably affected by the II concn. The conversion was max. for 0.1-0.2% IIa and decreased appreciably for a satd. IIa soln. in Me₂SO. During the electrochem. polymn. of I in the presence of II, gas evolution at the cathode is directly proportional to the current intensity, while the cathode is coated with an insol. solid light-orange-colored (dark-brown at high current intensity) deposit, which does not hinder passage of the

elec. current; the soln. is colored similarly. The deposit is believed to be similar to the polymer obtained by Funt and Williams (1964) at mol. wt. <5000 being independent of the I concn. The rate of formation of the polymer seems to be the same for IIa, IIb, and IIc, although slightly higher conversions at low current intensities were obtained for IIa than for IIc and IIb. The reaction rate increased almost linearly with the current intensity (<60 ma.). The conversion increased with the duration, slowly leveling off. A green-white product was formed on the cathode when a II soln. in Me₂SO was electrolyzed; a similar polymer was formed when this deposit was brought into contact with I as such or in Me₂SO without passage of current, even after several hrs. in N, and H is evolved simultaneously; the electrolyte soln. left after removal of the electrode was inactive with respect to I. The polymn. rate of I during passage of the current was directly proportional to the I concn., confirming a 1st-order reaction. These results indicate an anionic mechanism for the electrochem. polymn. of I in Me₂SO in the presence of II, 2 processes occurring at the cathode-in one, the alkali metal reacts with the I to form an anion radical; in the other, an electron is added directly to the double bond of I. The propagation mechanism is similar in both processes. The ir spectral data confirmed a structure like III.

- ST vinyls electrochem polymn; electrochem polymn vinyls; acrylonitrile anionic polymn; anionic acrylonitrile polymn; persulfate in anionic polymn; dimethyl sulfoxide anionic polymn
- IT Kinetics of polymerization
(of acrylonitrile, electrochem., in presence of peroxydisulfates)
- IT 7727-21-1 7727-54-0 7775-27-1
RL: PROC (Process)
(acrylonitrile electrochem. polymn. in presence of)
- IT 25014-41-9P, preparation
RL: PREP (Preparation)
(electrochem., in presence of peroxydisulfates, kinetics of)
- L77 ANSWER 56 OF 58 CAPLUS COPYRIGHT 2003 ACS
- AN 1968:467835 CAPLUS
- DN 69:67835
- TI Partial molal volume of polyelectrolytes
- AU Ise, Norio; Okubo, Tsuneo
- CS Kyoto Univ., Kyoto, Japan
- SO Journal of the American Chemical Society (1968), 90(17), 4527-33
CODEN: JACSAT; ISSN: 0002-7863
- DT Journal
- LA English
- CC 35 (Synthetic High Polymers)
- AB The ds. of aq. solutions of polyelectrolytes were measured by a pycnometric method. The materials used were polyacrylates (I), poly(styrenesulfonates) (II), poly(ethylenesulfonates) (III), and salts of poly(ethylenimine) (IV) and its low-mol.-wt. analogs having various gegenions. The apparent molal vols. of the polyelectrolytes were practically concn. independent. From the partial molal vol. obtained, the individual molal vol. of the macroions was calcd. and discussed in terms of 3 contributions, namely intrinsic vol. of macroions, hydrophobic structural effect (P2p), and electrostrictional hydration (E2p). P2p was

neg. for all the polyelectrolytes studied, ranging from about -20 to 0 ml./mole. The magnitude of P2p was in the order IV < III < I < polymethacrylate < II < polyphosphate. E2p, which was also neg., varied from -50 to 0 ml./monomole, depending on the macroion. The magnitude of E2p increased in the order II < IV < I < polyphosphate < polymethacrylate < III. It was found that the P2p term was influential in detg. the **thermodynamic** properties of polyelectrolyte solns., as was the electrostrictional hydration term, which was already known to be exclusively important in ordinary simple **electrolytes**. 30 references.

- ST electrostrictional hydration polymers; hydration electrostrictional polymers; polyelectrolytes partial molal vol; molal vol partial polyelectrolytes; polyethylenimines partial molal vol; polyacrylates partial molal vol; polystyrenesulfonates partial molal vol; polyethylenesulfonates partial molal vol
- IT Molar vol.
(of polyelectrolytes, detn. of)
- IT Polyelectrolytes
(partial molar vols. of, detn. of)
- IT Ammonium, tetrabutyl-, salt with ethenesulfonic acid polymers
Ammonium, tetrabutyl-, salt with vinylbenzenesulfonic acid polymers
Ammonium, tetraethyl-, salt with vinylbenzenesulfonic acid polymers
Ammonium, tetramethyl-, salt with vinylbenzenesulfonic acid polymers
Ammonium, tetrapropyl-, salt with vinylbenzenesulfonic acid polymers
Benzenesulfonic acid, vinyl-, ion(1-), polymers, tetrabutylammonium
Benzenesulfonic acid, vinyl-, ion(1-), polymers, tetraethylammonium
Benzenesulfonic acid, vinyl-, ion(1-), polymers, tetramethylammonium
Benzenesulfonic acid, vinyl-, ion(1-), polymers, tetrapropylammonium
Benzenesulfonic acid, vinyl-, polymers
Benzenesulfonic acid, vinyl-, polymers, sodium salt
Ethenesulfonic acid, ion(1-), polymers, tetrabutylammonium
RL: USES (Uses)
(partial molar vols. of, detn. of)
- IT Benzenesulfonic acid, vinyl-, polymers, lithium salt
Benzenesulfonic acid, vinyl-, polymers, potassium salt
RL: PRP (Properties)
(partial molar volumes of, detn. of)
- IT 9003-01-4 9003-04-7 21121-07-3 29319-76-4
29319-77-5 29319-78-6 29382-22-7
RL: USES (Uses)
(partial molar vols. of, detn. of)
- IT 25087-26-7, properties 25608-12-2 25656-42-2
RL: PRP (Properties)
(partial molar vols. of, detn. of)
- IT 15467-15-9 21120-99-0 21121-06-2 25053-27-4
26101-52-0 26338-45-4 29319-81-1 29319-82-2
RL: PRP (Properties)
(partial molar volumes of, detn. of)
- IT 29382-22-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L77 ANSWER 57 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1962:46584 CAPLUS

DN 56:46584

OREF 56:8877g-i,8878a

TI **Flameproofing** coating compositions

PA Farbwerke Hoechst A.-G.

DT Patent

LA Unavailable

CC 43 (Organic Coatings, Inks, and Related Products)

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
GB 874762		19561027	GB	

PI GB 874762

GB

PRAI DE

19561027

AB The compns. are emulsions permitting the introduction of large amts. of **electrolytes** without coagulation. They consist of polyvinyl esters, such as poly(vinyl acetate or propionate) or their mixts., dispersed in H2O with such **electrolyte**-resistant emulsifying and stabilizing agents as H2O-sol. derivs. of cellulose or starch, poly(vinylpyrrolidinone), or polyacrylamide. To the emulsions, there are added 10-40% (by wt. of the coating compn.) **flameproofing** agents, such as (NH4)H2PO4, KH2PO4, Na3PO4, (NH4)2SO4, NH4SO3NH3, (NH4)3BO3, ZnCl2, or AlCl3; and 15-50% by wt. org. bubble-forming agents, e.g. dicyandiamide, pentaerythritol, sorbitol, urea-HCHO resins, albumin, or starch. In addn., plasticizers, e.g. tritolyl phosphate, bis(chloroethyl) phthalate, or org. **flame**-inhibiting agents, such as chlorinated biphenyl, chloro paraffins, or insecticides and fungicides, such as Cl5C6ONa, Na3AsO4, CuSO4, or KHF2; and pigments, e.g. TiO2, Cr2O3, Fe2O3, or Sb2O3 may be added. For example, vinyl acetate was polymerized in the presence of 2% hydroxyethyl cellulose to form an emulsion with 55% solids; to this emulsion 25, there was added NH4H2PO4 20, dicyandiamide 15, pentaerythritol 12, starch 2, pigment 3, and H2O 25 parts.

IT Fire-resistant materials, **Flame**-retardant materials
(coatings, from emulsions of vinyl ester polymers and **flameproofing electrolytes**)

IT Coating(s)
(from vinyl acetate or propionate polymers and **flameproofing electrolytes**, fire-resistant)

IT Coating(s)
(from vinyl alc. polymers)

IT Polymerization
(of vinyl acetate, for emulsion resistant to coagulation by **flame**-proofing **electrolytes**)

IT **Electrolytes**
(vinyl ester-polymer emulsions resistant to coagulation by)

IT Rhodates(III), chloro[N-(carboxymethyl)-N'-(2-hydroxyethyl)-N,N'-ethylenediglycinato]-

IT Vinyl acetate, polymer with dodecyl vinyl ether
(for emulsion resistant to coagulation by **flame**-proofing **electrolytes**)

IT 461-58-5, Guanidine, cyano-
(coatings (fire-resistant), as bubble-forming agent)

- IT 9003-20-7, Vinyl acetate polymers
(emulsions of, resistant to coagulation by flame-proofing electrolytes)
- IT 25035-84-1, Propionic acid, vinyl ester polymers
(flameproof coatings contg.)
- IT 7722-76-1, Ammonium phosphate, $\text{NH}_4\text{H}_2\text{PO}_4$
(flameproof coatings contg. vinyl acetate polymer emulsions and)

L77 ANSWER 58 OF 58 CAPLUS COPYRIGHT 2003 ACS

AN 1958:75431 CAPLUS

DN 52:75431

OREF 52:13368h-i,13369a-f

TI Hydration of hydrophilic polymers. Solubility. Salting out

AU Neel, Jean

CS Univ. Paris

SO Ann. chim. (Paris) [13] (1957), 2, 870-915

DT Journal

LA Unavailable

CC 2 (General and Physical Chemistry)

AB In order to det. the nature and the mechanism of hydration of org. polymers, the behavior of heterogeneous ternary systems was studied: macromol. compd.- H_2O -mineral salt, an analytical method being applied which is known as the "method of residues" and which is used in inorg. chemistry in detg. the formulas of double salts or hydrates having different solubilities. The tests were made with poly(vinyl alc.) and serum albumin. The observed phenomena, both concerning variations in soly. and distribution of reactants, can be easily approached from their equil. mixts. with H_2O , an org. solvent, and a mineral salt, account being taken of the particular **thermodynamic** behavior of the macromol. solns. In the 1st case, it is shown that the preferential fixation of H_2O by poly(vinyl alc.) in contact with an aq. electrolytic soln., is due principally to an effect of electrostatic selection that the ionic particles exercise on the 2 dielec. constituents of the system, and not to a chem. coordination of the H_2O and the macromol. compd. The valence and the ionic radius, the concn. of the salt soln., the static dielec. const., and the internal cohesion of the macropolymer are the factors that det. the intensity of the phenomenon. The mechanism proposed is identical with that proposed by Debye (C.A. 22, 534) to interpret the decreased soly. of gas and ether in H_2O contg. mineral salts. The parallelism that has been established between the 2 effects justifies the correlation between the pptg. power of an **electrolyte** with respect to poly(vinyl alc.) and the existence of an important quantity of nonsolvent H_2O of the mineral compd. in the org. ppt. It shows a different action of solns. of the same ionic force (lyotropic effect) and leads to ranking the different **electrolytes** used in an order compatible with the already known Hoffmeister series. The results permit N. to specify that the solubilizing influence of certain salts is accompanied by their supersatn. in the org. phase. This phenomenon has been interpreted, consideration being given to the nonelectrostatic forces, and more especially the interactions of the London dispersion, applicable to the different particles present. This behavior can then be placed in relation to the

structure and certain phys. properties of the crystd. **electrolyte** (m.p., soly. in org. medium). The preceding conclusions, generalized for a more complex macromol. compd. such as serum albumin, permits the interpretation of the distribution of reactants in the 2 phases that sep. in the course of salting out of this protein by a mineral salt, but it is necessary to take into account the affinity of the polyelectrolyte in respect to charged particles. However, in the case of a salt in which the ions are not susceptible of formation of chemically coordinated assocns. with the lateral functions of the polypeptide chain, as $(\text{NH}_4)_2\text{SO}_4$, the insolubilization should be considered as the result of an elec. effect analogous to that which has been previously described, exercised on the previously salified macromol. by one of the ions of the mineral salt. The behavior of the heterogeneous system serum albumin- H_2O - $(\text{NH}_4)_2\text{SO}_4$ can be interpreted by attributing the solid phase to a swelled albumin sulfate showing a hydration comparable to that which was shown in the case of an uncharged macropolymer. The mechanism thus suggested amounts to a tentative explanation of the Donnan effect presented by protein gels placed in contact with concd. electrolytic solns. Systematic examn. of the conjugated points in the diagram representative of the ternary system thus furnishes further proof that the albumin obtained after standard fractionation operations is not homogeneous.

- IT Proteins
 - (Donnan equil. of, in contact with concd. elec-trolytes)
- IT Albumins
 - (blood-serum, hydration of)
- IT Salts
 - (effect on hydrophilic polymer soly.)
- IT Polymers
 - (hydration, salting-out and soly. of hydrophilic)
- IT Solubility
 - (increase in, of polymers by salts)
- IT Hydration (chemical)
 - (of polymers (hydrophilic))
- IT Donnan equilibrium
 - (of protein gels in contact with concd. **electrolytes**)
- IT Dielectric constants
 - (polymer soly. in aq. **electrolyte** solns. and)
- IT Valency
 - (polymer soly. in aq. **electrolytes** and)
- IT Ions (in liquids and solids)
 - (radii or sizes of, polymer soly. in aq. **electrolytes** and)
- IT 7783-20-2, Ammonium sulfate
 - (effect on polymer soly.)
- IT 9002-89-5, Vinyl alcohol polymers
 - (hydration of)
- IT 1310-58-3, Potassium hydroxide 1310-73-2, Sodium hydroxide
 - (iron compds. in solns. of, and Fe removal in relation thereto)